ECHNOLOGY DEPARTMENT

DECEMBER 1, 1959
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TELEPHONE ENGINEER & MANAGEMENT

the telephone industry magazine

TELEPHONE ENGINEER & MANAGEMENT 50th ANNIVERSARY 1909 1959 THE TELEPHONE INDUSTRY MAGAZINE

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DEPRECIA AND PRACTICE, by G. M. Jones

Plant Notes on New Developments, by John S. Reed

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FOR PICTORIAL EVIDENCE OF A NEW PACE TURN THE PAGE

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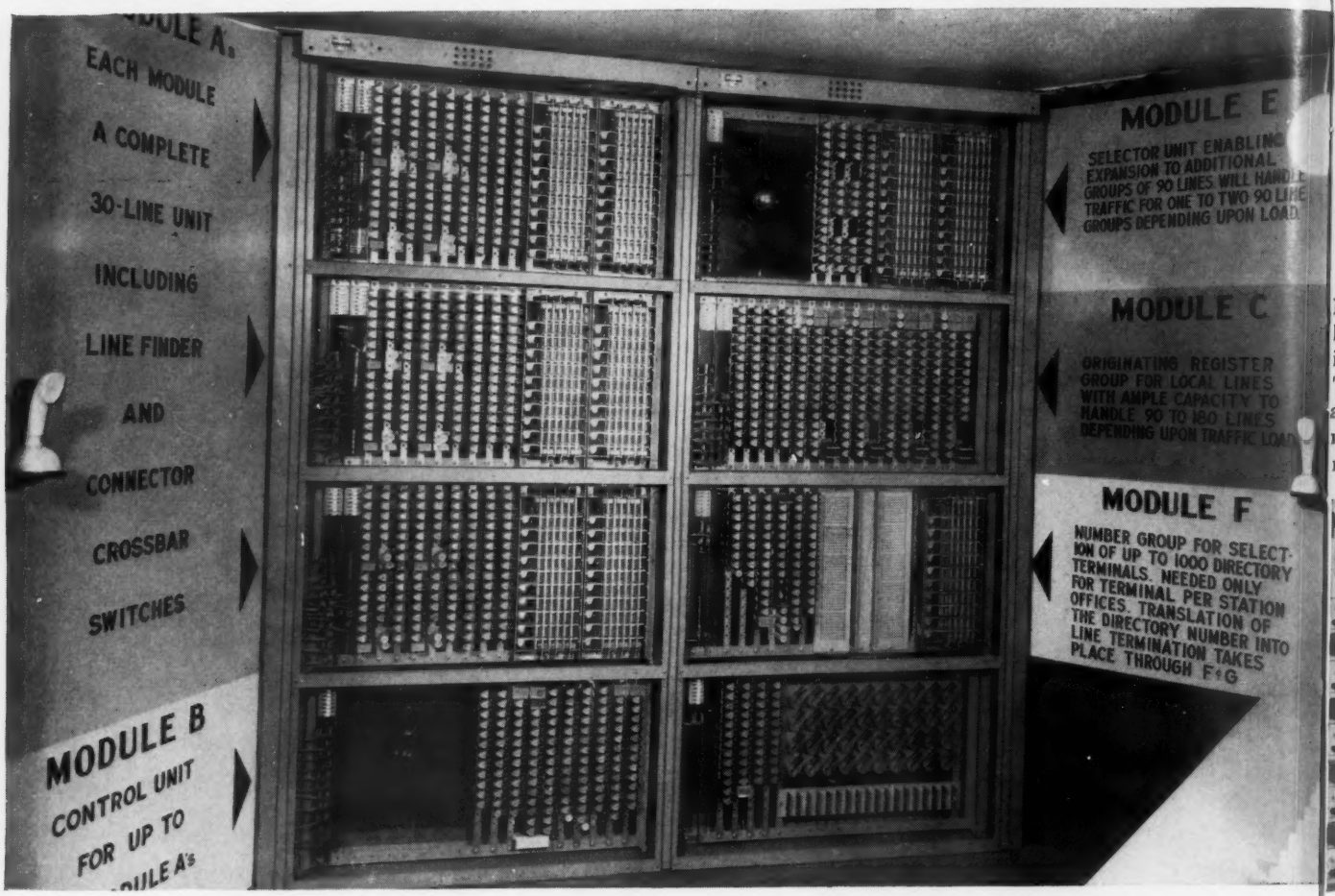
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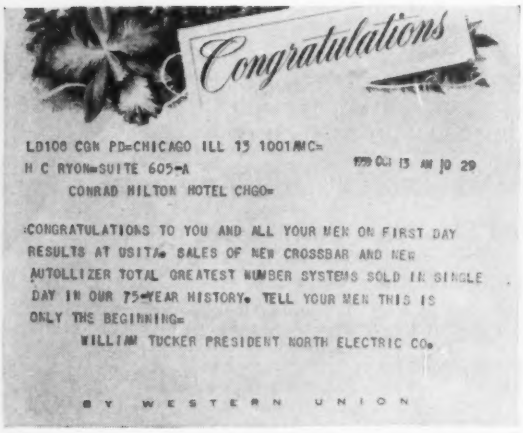
MODULE F
NUMBER GROUP FOR SELECTION OF UP TO 1000 DIRECTORY TERMINALS. NEEDED ONLY FOR TERMINAL PER STATION OFFICES. TRANSLATION OF THE DIRECTORY NUMBER INTO LINE TERMINATION TAKES PLACE THROUGH F & G

NEW—NX-2 and NX-3 Small Crossbar Systems were the Stars of the Show. Engineers and management men alike immediately recognized the advantages of North's dramatic switchboard design. This new concept is based on standardized modules which can be ordered out-of-stock for immediate delivery and fast, economical installation in offices of 30 to 3000 lines. Acceptance of NX-2 and NX-3 was evidenced by the purchase of several systems right off the exhibition floor.

NEW—Do-it-yourself display demonstrated to thousands the flexibility and simplicity of North's unique transistorized Trans-O-Ring Number Group designed for the new small Crossbar Systems.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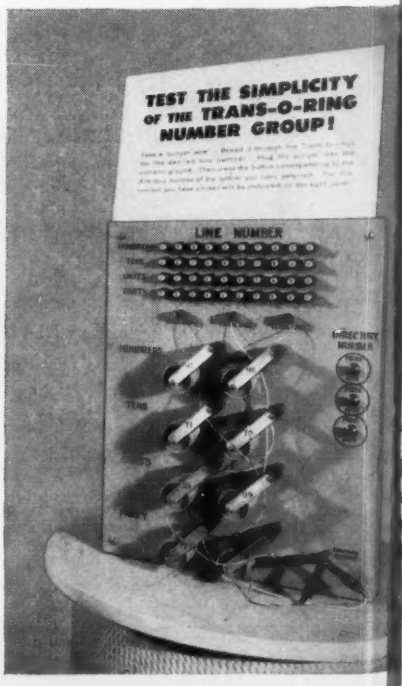
WILLIAM TUCKER PRESIDENT NORTH ELECTRIC CO.

BY WESTERN UNION

Congratulatory telegram from William Tucker, president of North, indicated the enthusiastic response to North's new products as early as the first day.

North's Space Girls Sandy Lipman and Judee Carr pointed the way to North's new space—helped celebrate our 75th Anniversary by cutting a 4-tiered birthday cake.



HESITA CONVENTION

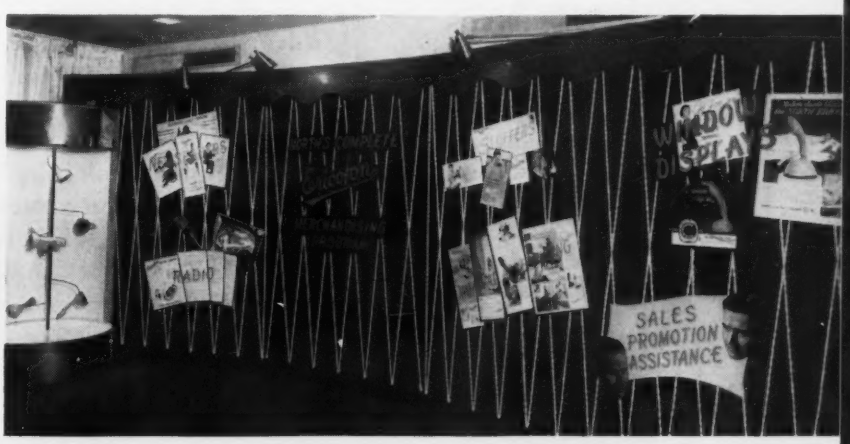
NEW—Ericovox, the "No-hands" telephone, is the latest addition to North's line and visitors acclaimed it as the finest instrument of this type they had seen. The complete line of Colortone wall and desk phones also attracted a great deal of attention while North's new Lighted-Dial received the praise of many who recognized the appeal of this feature to subscribers.

Newly standardized North Carrier, with years of development and refinement behind it, both in the laboratory and in the field, is today's best buy in efficiency, economy and simplicity.

NEW—Compact, 20-line Electronic Switchboard that weighs only 55 pounds. This transistorized unit, developed for the military services, is a preview of things to come to you from the laboratories of North Electric.

NEW—Premium AuTollizer Toll Ticketing is the most economical equipment available for completely automatic line identification, routing, timing, toll computation, and ticketing of station-to-station, person-to-person, collect and third number calls. Pay-station and time-and-charge calls are also ticketed with operator supervision. North AuTollizer was of particular interest to the many visitors who are contemplating improved efficiency or expansion to DDD.

North's complete Ericofon Merchandising Program, consisting of attractive bill stuffers, newspaper ads and other merchandising aids, is designed to help you increase revenue through added extensions. This aggressive campaign has been working for Independent Companies across the nation and will work for you, too.



THE DYNAMIC FORCE IN THE TELEPHONE INDUSTRY

NORTH ELECTRIC COMPANY

Galion, Ohio

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EDITORIAL STAFF

ROY F. SMITH
Publisher

JOHN G. REYNOLDS
Editor

DICK REYNOLDS
Production Mgr.

JANE KELLEY
Editorial Assistant

JOHN S. REED
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ROLAND DAVIES &
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ADVERTISING SALES STAFF

DONALD C. SORENSEN
Advertising Manager

BETSY MEYERS
Advertising Assistant

KEITH H. EVANS
& ASSOCIATES
3723 Wilshire Blvd.
Los Angeles 5, Calif.
Tel. — DUnkirk 8-2981

515 Market St., Rm. 225,
San Francisco 5, Calif.
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TELEPHONE ENGINEER & MANAGEMENT

the telephone industry magazine

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The TE&M Front Cover

Discussing General Telephone Co. of Ohio's 200,000th telephone installation at a dinner celebration for the occasion in St. Marys, Ohio, are (from left) ARTHUR C. KATTERHEINRICH, state representative; CLARE E. WILLIAMS, president of General of Ohio, and ROSS PEPPLE, state senator.

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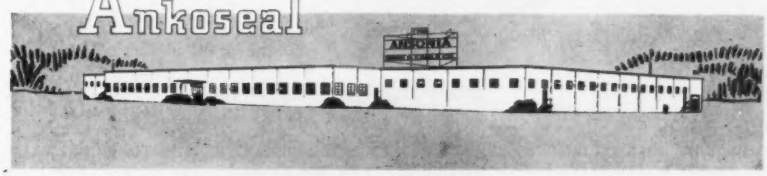

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coming

CONVENTIONS

MINNESOTA Tel. Assoc., St. Paul Hotel, St. Paul, Minnesota, Feb. 7-10, 1960.

LOUISIANA Tel. Assoc., Jung Hotel, New Orleans, La., Feb. 24-25, 1960.

KENTUCKY Tel. Assoc., Phoenix Hotel, Lexington, Ky., March 1, 1960.

TEXAS Tel. Assoc., Baker Hotel, Dallas, Texas, March 7-8, 1960.

OHIO Tel. Assoc., Deshler Hilton Hotel, Columbus, Ohio, March 28-30, 1960.

IOWA Tel. Assoc., Ft. Des Moines Hotel, Des Moines, Iowa, April 5-6, 1960.

NEBRASKA Tel. Assoc., Hotel Not Announced. Omaha, Nebraska, April 19-20, 1960.

INDIANA Tel. Assoc., Claypool Hotel, Indianapolis, Indiana, May 4-5, 1960.

ILLINOIS Tel. Assoc., Abraham Lincoln Hotel, Springfield, Ill., May 19-20, 1960.

KANSAS-MISSOURI Tel. Associations, Town House, Kansas City, Kans., May 23-24, 1960.

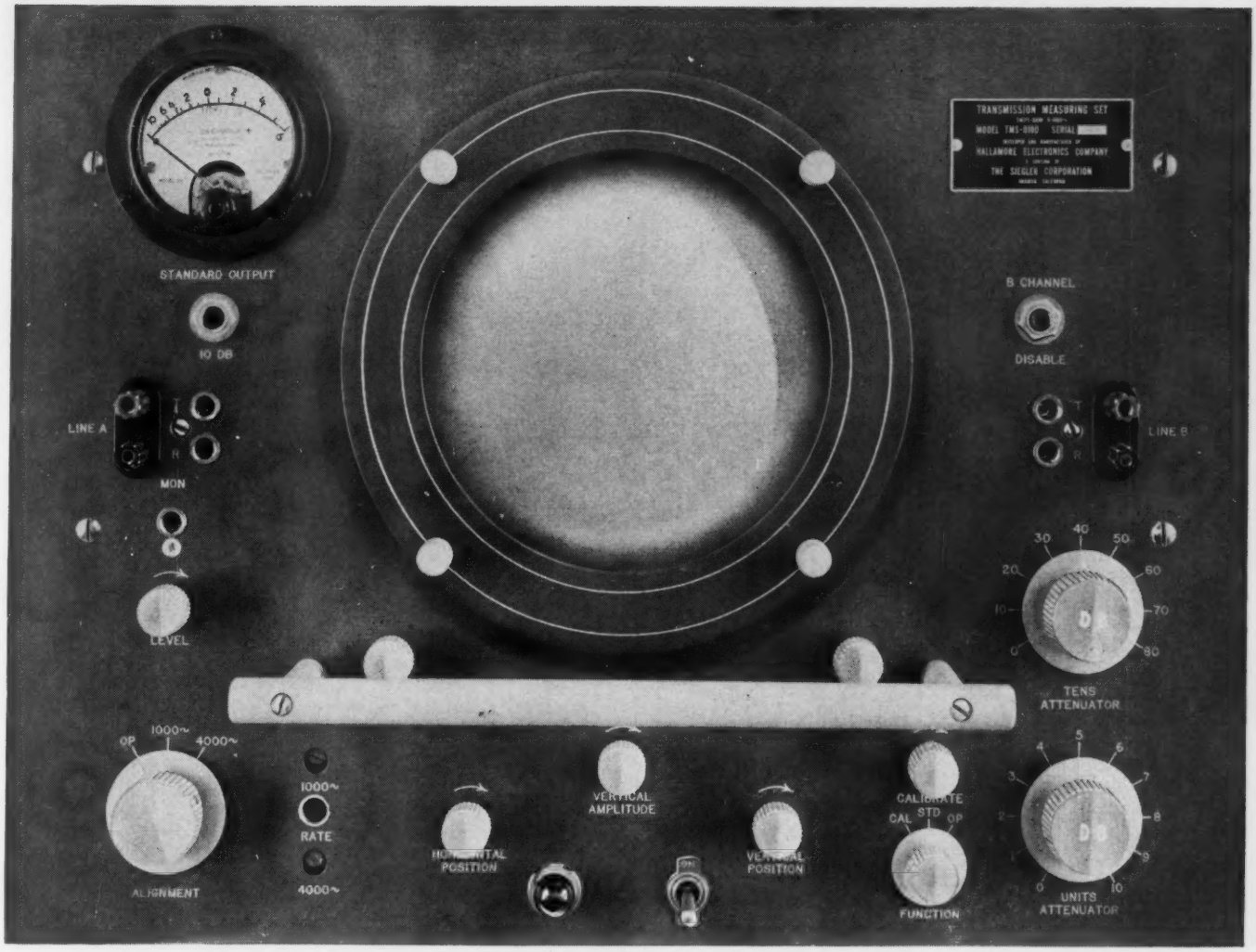
PENNSYLVANIA Tel. Assoc., Bedford Springs Hotel, Bedford Springs, Pa., June 6-7, 1960.

CALIFORNIA Tel. Assoc., Fairmont Hotel, San Francisco, Calif., June 8-10, 1960.

WASHINGTON-OREGON Tel. Assoc., Sheraton Portland Hotel, Portland, Ore., June 16-17, 1960.

NEW YORK Tel. Assoc., Scaroon Manor, Schroon Lake, N. Y., June 20-22, 1960.

NATIONAL CONVENTION, Conrad Hilton Hotel, Chicago, Ill., Oct 9-12, 1960.



A NEW APPROACH TO TRANSMISSION MEASUREMENT

Requirement: Examine transmission characteristics of a circuit and associated apparatus within a prescribed frequency band and display these characteristics visually. **Solution:** TMI-0100 Swept Band Transmission Measuring set developed and manufactured at the Anaheim laboratories of Hallamore Electronics Company.

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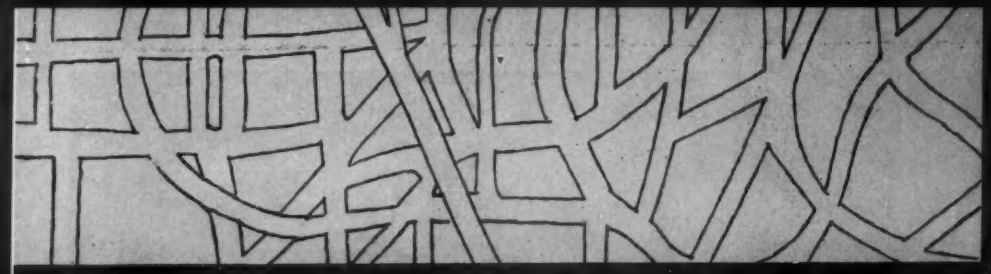

* DRIVE-INS

* PARKING LOTS

SHOPPING CENTERS

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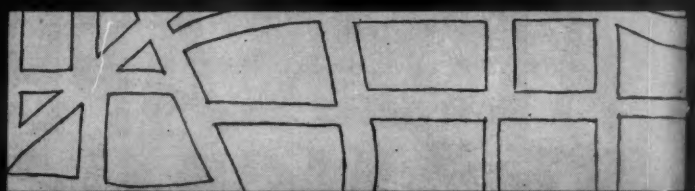
what are the best spots forpa

* PUBLIC INSTITUTIONS

* BUSY INTERSECTIONS



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12-1-59

INDUSTRY NEWSLETTER

Tariff Changes Would Permit Furnishing Of Channels For Extension of 'Facsimile Mail'

Tariff changes to permit furnishing of channels to post office department for extension of 'facsimile mail' equipment tests to Detroit & Battle Creek, Mich., were outlined to FCC Nov. 5 in filing by **American Tel. & Tel. Co.** Long Lines Department for special permission to put tariff amendment into effect on not less than one day's notice.

Western Union Telegraph Co. Pres. **Walter P. Marshall** immediately wired FCC, urging denial of request for permission to put tariffs into effect on one day's notice, stating that "additional time" is needed to study "consequences of such a tariff." Marshall commented "this might well be the first step looking to the inauguration of transmission of mail by electrical means."

Request for special permission & an attached illustrative tariff brought out that service is expected to be limited to two months' duration. Channels furnished would be arranged for alternate high speed facsimile & video transmismission of internal government correspondence, testing material & technical sion. Channels would be "used only in connection with experimental transmission of internal government correspondence, testing materials & technical reports of performance of facsimile equipment being evaluated."

* * *

United Rejects Gen. Tel. Purchase Offer

United Utilities, Inc., Kansas City, Mo., second largest group of Independent telephone companies in nation, has rejected offer by **General Telephone & Electronics Corp.** to acquire it through exchange of stock.

Gen. Tel. started negotiations about three weeks ago & its offer was presented to United Utilities board Nov. 5. Exchange was on basis of 5/8 share of Gen. Tel. for each share of United.

"Directors of United Utilities did not think the terms were adequate," **C. A. Scupin,** pres., said. "The prospects of the company are such that we think it has a greater value than the offer made by General Telephone."

United Utilities has outstanding 2,459,212 shares of common stock. Holders would have received 1,537,005 shares of General Telephone in the exchange.

* * *

Railroads State Their Case At FCC Hearings on "Interconnection"

Outlines of railroads' case in current FCC hearing, involving tariff of AT&T providing for interconnection of telephone companies' exchange & toll network with privately operated systems of railroads, became clear last month when **Southern Railway System** gave its testimony.

In brief, Southern Railway witnesses took position that interconnection is needed for safe & efficient operation of railroad, that replacement of existing facilities with microwave radio also is needed, & that railroad cannot have both under tariff. While Southern is one of eight railroads which either protested the tariff — allowed to become effective July 15 by FCC in order setting matter for hearing — or later filed to intervene, it was initial protestant & in many respects has been leading advocate of protesting railroads' position. Thus, it is not anticipated that views of other railroads in FCC case will differ radically from those of Southern.

Cross-examination of AT&T witnesses in hearing was interrupted Nov. 3,

after week-long questioning of AT&T Vice President **George L. Best** (see page 24) was completed, to permit Southern witnesses to meet later commitments. When hearings recessed Nov. 6, Examiner **Jay A. Kyle** announced they would not resume until Jan. 13.

When hearings resume, order of business will include completion of examination of Southern & AT&T witnesses & direct testimony & cross-examination of representatives of **General Telephone Service Corp., U. S. Independent Telephone Association,** the other seven railroads, **National Committee for Utilities Radio,** & **Central Committee on Radio Facilities of American Petroleum Institute, Association of American Railroads** also is party to case, but has not indicated it will present testimony.

* * *

Industry Highlights

J. D. Garrett, Jr., elected sec.-treas. of **Arkansas Tel. Assoc.** He succeeds **John E. Shaffer.** New exec. sec. of Ark. association is **P. A. Lasley** of Lasley & Lovett, 921 Pyramid Bldg., Little Rock. **T. S. Lovett, Jr.,** continues as association counsel. **Lois Kehoe** of **Western Ark. Tel. Co** will continue to assist Arkansas Telephone Association through Jan. '60 . . . . **George E. Hill,** county prosecutor, Marquette, Mich., named chairman of **Michigan Public Service Commission.** He succeeded **Otis M. Smith,** who recently took office as auditor general of Michigan.

* * *

Strictly Personal

Maurice Hughett named vice pres. & gen. mgr. of **Cook Electric's** technological center at Morton Grove, Ill. . . . **J. A. Schram** elected pres. of **Comptometer Corp.,** Chicago, succeeding **A. E. Carlson,** who resigned for health reasons but will continue as a director & financial advisor . . . . **Warren B. Lincoln** named budget director of **Stromberg-Carlson Div.** of General Dynamics Corp. . . . . **Richard J. Phelan** named market research analyst for Stromberg-Carlson's Telecommunications Div. He was assistant to director of plans & programs.

* * *

Mercy Fund Defended At ICC Hearing

Representatives of Catholic, Jewish & nonsectarian charities joined Nov. 9 in testifying their work would suffer seriously if corporate contributions to Community Fund-Red Cross Joint Appeal are stopped. They appeared as witnesses at Illinois Commerce Commission hearing on objection by **Andrew Vrtjak,** Chicago attorney, to $290,000 contribution from **Illinois Bell Tel. Co.** Vrtjak said this amounted to 26.5¢ a year for each telephone subscriber in Chicago. Examiner hearing case, **William E. Helander,** spoke of amount as about 2¢ a month, of which about half would have been paid in federal income taxes if not contributed to charity.

Vrtjak argued that Illinois Bell directors have no right to make contributions paid by subscribers. He said every telephone user should be able to decide for himself how much he wants to give & to whom. He also objected to furnishing by Illinois Bell of two men to work full time for the campaign.

Leslie N. Jones, general counsel for Illinois Bell, said company is proud to make the donation & considers it part of its obligation to the community. He said donation comes from gross receipts & not necessarily from money paid by subscribers. Besides, he added, it is tax deductible.

* * *

IRS Reports on Excise Tax Revenue

10% excise tax on local telephone service produced revenues totaling $94,118,000 in quarter ended Sept. 30, compared with $94,574,000 in same period of 1958, Internal Revenue Service reported. In same three-month period of 1959, tax on long distance telephone, telegraph, cable, radio, leased wires, & wire & equipment service totaled $72,923,000, against $68,906,000 a year earlier.

Next page please

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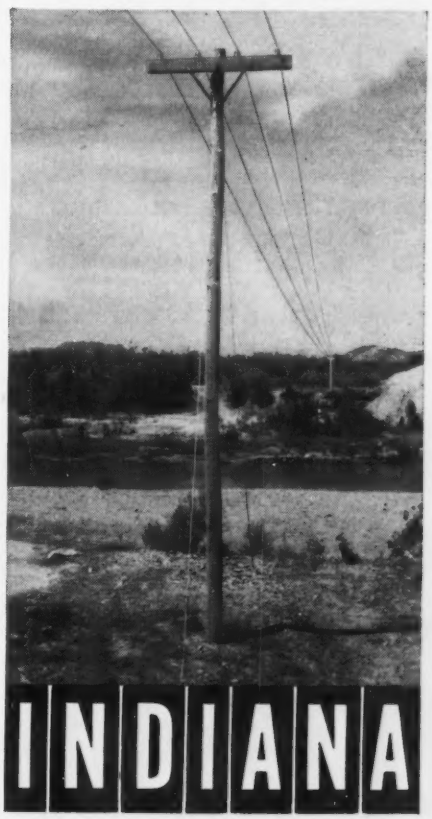

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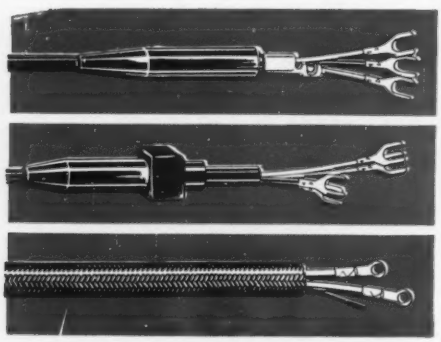

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INDUSTRY NEWSLETTER

(Concluded from page 11)

Mississippi PSC Studies Phone "Back-Billing" Plan

Efforts by **Southern Bell Tel. & Tel. Co.** to back-bill some 23,000 customers in 11 cities for approximately $800,000 are under study by **Mississippi State Public Service Commission.**

Commission Chairman **Norman A. Johnson** told press he was preparing a full study report which would be released when completed. "I am not convinced," he said, "there is any such thing as legal back-billing of customers for utilities. I can find no record of any such thing ever having been attempted or accomplished in any other state."

Southern Bell's action came after this series of actions: In 1956, Southern Bell put into effect under bond rate increases amounting to $2,750,000 annually after commission had refused to grant such hikes. Company appealed to Hinds Chancery Court, which ruled in favor of commission. Appeal to Mississippi Supreme Court followed. High Court upheld chancellor's decree. As result, Southern Bell is preparing to refund some $9 million plus interest at 6% to telephone customers throughout Mississippi. Until advanced rates were put into effect under bond, some suburban & rural customers paid mileage rates, which were discontinued by telephone company under new bonded rate structure. With Supreme Court ruling bonded rates illegal, Southern Bell holds reduced mileage rates also were illegal & must be repaid. Notices have been sent to customers that they will be back-billed.

* * *

Elnathan C. Gates Dies

ELNATHAN C. "NATE" GATES, 62 died Nov. 14 at Northwestern Hospital, Minneapolis, Minn. **Nate Gates** was widely known. He was president of three telephone companies & vice president of a fourth. He was twice elected president of **Minnesota Telephone Association, Inc.** & was a director at time of his death. At recent USITA convention Nate was elected third vice president of USITA & was also on USITA board of directors. Survivors are his widow, **Frances** (2821 Benton Blvd., Minneapolis, Minn.); a daughter, **Mrs. James E. Smith,** Lake Forest, Ill.; two grandchildren of Lake Forest; three brothers, **Dr. Russell Gates,** Santa Barbara, Calif., **Joseph Gates,** Billings, Mont., & **Donald Gates,** Kenyon, Minn. Two sisters also survive. They are **Mrs. Robert Shade,** New Richland, Wis., & **Mrs. John Hedges,** Faribault, Minn. Funeral services were held Nov. 17 in Lakewood Cemetery Chapel, Minneapolis. Memorials in his name should be sent to **University of Minnesota Cancer Research Fund.**

* * *

Highlights

Harold B. Groh named v.p.-public relations for **S. W. Bell** in Okla. He succeeds **Doug Williams,** who retired Oct. 31 after 37 years service. **Edward C. Smith,** gen. coml. mgr. of company's Kansas area, succeeds Groh as v.p. & gen. mgr. . . . **Park Region Mutual Tel. Co.,** Underwood, Minn., purchased **Midway Mutual Tel. Co.,** Ashby, Minn. . . . **Marston V. Shepherd** named western div. mgr., **Gen. Tel. of Ky.** He succeeds **Jack A. Reitze,** advanced to gen. traffic mgr. **Ralph F. Kessinger,** former director of personnel, will assume additional duties of public relations director.

Richard B. Steinmetz elected pres. of **Anaconda Wire & Cable Co.** He succeeds **William E. Sprackling,** who retired but remains as a director. . . . **Carl H. Fruh** named planning engineer for **Gen. Tel. Lab's,** Northlake, Ill. He succeeds **Donald E. Klang,** newly appointed director, product development for Gen. Tel. & Electronics, N. Y.

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"gets them on the job quicker"

The installation of a Kellogg ten-line fire reporting system in Star City and another in Buffalo, Indiana central offices, has led Mr. Otho Price, Fire Chief at Buffalo, to report, *"We get more of our firemen on each call, and we get them on the job quicker with the new dial fire alarm system . . ."*

This is typical of community results with the Kellogg Volunteer Fire Call System. Also, it's easily installed. To quote Mr. James D. O'Connor, manager of The Pulaski-White Rural Telephone Co-Operative, Inc., "Since this system uses the regular subscriber phone, we need not install extra phones or occupy needed cable pairs with fire lines . . . it is the answer to the problem facing small communities in regard to fire reporting after conversion to dial."

Your Kellogg sales representative will be glad to explain the many advantages of this system for your community.

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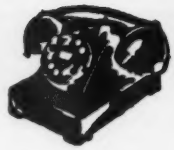
International Telephone and Telegraph Corporation

For complete list of offices see pages 26-27



INDUS

Buck Rogers Required Reading?

MOST TALES of interplanetary adventure were evolved from articles in coldly scientific journals. Spaceships wandering around in the Milky Way need a little fact in their fuel to make them navigable to the reader. Obviously, science-fiction writers must go to the scientists for their material.

There seems to be one exception. Dr. A. C. Clarke, whose wonderful stories are the most fantastic of all scientifiction, furnishes inspiration to the scientists. *Bell Laboratories Telephone Record* for October, discussing the satellite communications station now under construction at Holmdel, New Jersey, says: "The first proposal for a system of satellite communications was offered in 1945 by A. C. Clarke, engineer and author."

After that, we may expect to hear that Buck Rogers and Flash Gordon are required reading at Bell Laboratories.

* * *

Closer Ties Needed?

ONCE AGAIN the USITA Toll Settlement committees have earned the warm thanks of the Independent industry. Their agreement with the Bell System brings a substantial gain to many companies. Their work may have much more than an immediate dollar value. It may help to bring about closer organization ties between our national and state associations. That, as we see it, is needed — and needed now.

The loosely knit "rugged individualism" of our state associations has gone far and done well; but eventually, in the best interest of every Independent, it should change to a closer association. We need interdependence organized on the national scale. We depend on the national association for such vitally necessary work as that done by the toll committees, for rep-

TRY OBSERVATIONS By L. A. GRITTEN

resentation in such affairs as the recent FCC-AT&T toll rate reduction, or the attack on the federal excise tax; and the USITA can function best when it has the fullest support from the state associations.

Our future is pregnant with situations that will call for national action backed by the coordinated effort of every state group; and with local situations where the state association will need direct aid from, and direct representation in, the USITA. The time is ripe for a reappraisal of our haphazard Independent organization.

* * *

If Not Disability, Then What?

THE BENEFIT Committee of the Carolina Telephone & Telegraph Co., (*Cross Talk*, October, 1959) announces that pregnancy is not a disability and that C.T.&T. employes are not thereby eligible for sickness benefits. The Committee concedes that "conditions accompanying pregnancy may at times cause disability." As we lack personal experience of the condition, we shall not question this statement. It sounds quite reasonable.

However, the Committee's report is negative in one respect. It states what pregnancy is not, but fails to say categorically what it is. If it is not a disability, what is it? Certainly, it is not an aid or stimulus to the performance of telephone duties. It is not a pastime, a sport, nor a business. In a world suffering from overpopulation, it could even be regarded as a social menace. This is getting us out of our depth. We pass this question back to the Committee.

We are certain of only one thing: George Bernard Shaw was wise when he said that he personally would not have a baby for ten thousands pounds.

* * *

Saying The Most With The Least

RELIEF from gobbledygook is in sight; the gobbledygookers themselves are cleaning house. "*Getting Your Ideas Across Through Writing*" is a pamphlet prepared for the U. S. Department of Health, Education & Welfare, and sold by the Superintendent of Documents, Washington, D. C. It is aimed at people who think it sounds more erudite to say "in view of the fact that" instead of "because," or who write "of the order of magnitude" when all they mean is "about." The pamphlet is worth much more than the twenty cents that it costs.

L. A. GRITTEN'S "Industry Observations" appear exclusively in "Telephone Engineer & Management."

Feathers In Our Own Bed?

RAILROAD featherbedding is being well publicized. All the world knows that we, the public, pay $500 million a year for firemen who do not fire and similar railroad union nonsense. What of our own industry? Are our unions more sensible or our employers harder to coerce? Or is our own featherbedding merely less advertised?

We are not as badly afflicted as the railroads; but we have more than is good for us. For one example, there are telephone union contracts galore that deny the company the right to place an apprentice with less than three years service — or even more — on any job, however simple, without a journeyman. Apparently such brainy jobs as disconnecting a residence telephone, loading wire on to a truck or changing a receiver cord are regarded as too baffling or esoteric to be mastered in less than three years!

In this period of Cold War and hot international competition, we should fight any form of inflation. Perhaps we should emulate the railroad managements and let people know what our own featherbedding is costing them — then do something about it!

* * *

What Is A Job Worth?

TALL TALES from Texas are not unusual, but they seldom come so tall as what is happening to the International Union of Operating Engineers (AFL-CIO) at Borger, Texas. Thirty odd members of Local 215 were fired by Phillips Petroleum Company for closing down certain operations in accordance with union orders. An N.L.R.B. decision upheld the company. So 25 of the union employes are suing the union for an aggregate sum of $3,969,630, an average of over $158,700 apiece! They cite "malicious and reprehensible conduct" by the union, causing loss of earnings, benefits, participation in insurance plans, and so forth.

We suspect that not one union telephone employe in ten has a clear idea of the capital worth of the job he holds. Let us cut the Texas engineers' probably inflated claims to one-third; then, how many telephone journeymen feel that their job is worth $50,000 cash? It might be time well spent to submit periodically to each employe a factual statement of the worth to him as an individual of each facet of his employment, summarized as the amount he would have to invest at 5% to pay for his wages and his various benefits. Possibly he would be less likely, during the next annual argument, to vote strike powers to the professional union leaders.

LONGER LIFE!

When you talk about Kennecott lead-alloy sheathed cable, longer life REALLY MEANS SOMETHING! It means retention of full electrical properties over the *entire* long, long life of the cable. That's because every component that goes into Kennecott Telephone Cable—from copper conductor to superior, uniformly strong "Young Process" lead sheath—is checked and tested. Flaws, imperfections and inferior materials are ruthlessly eliminated. Get complete information on Kennecott Telephone Cable from the Chase sales office near you.

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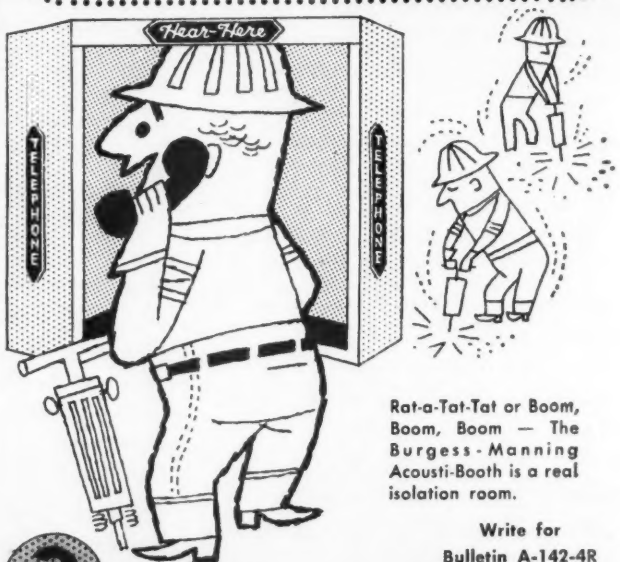

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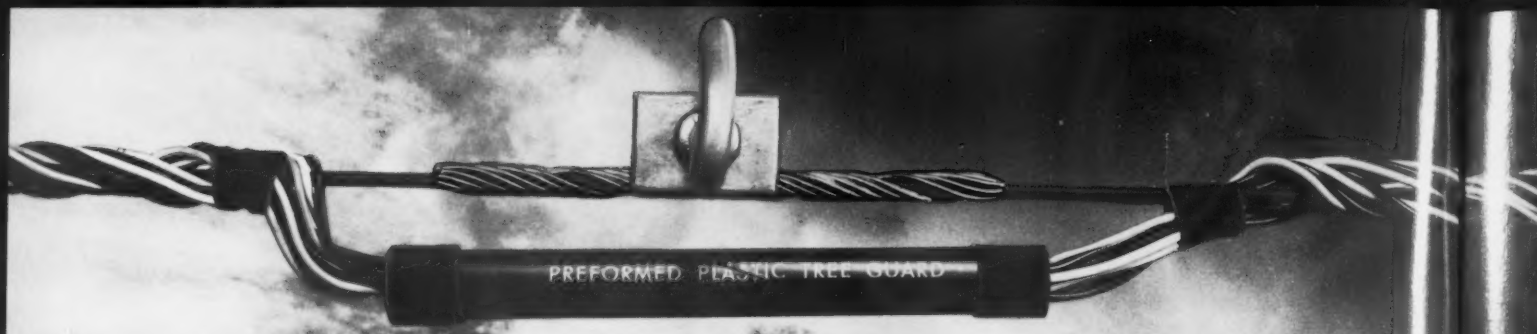

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the new way to install service drops and splicing cases. Protective armor increases diameter of messenger to accommodate D Span Clamps or splice case attachments.

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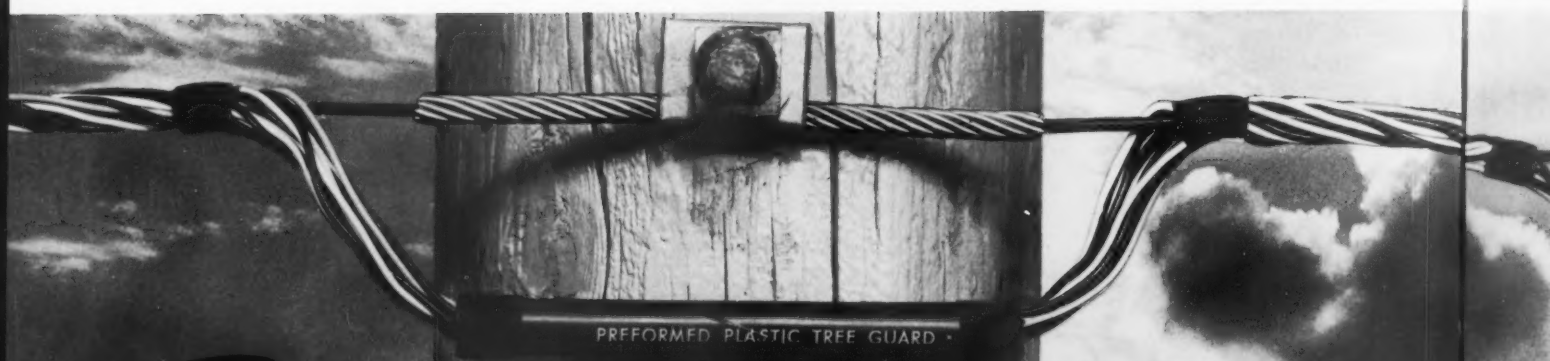

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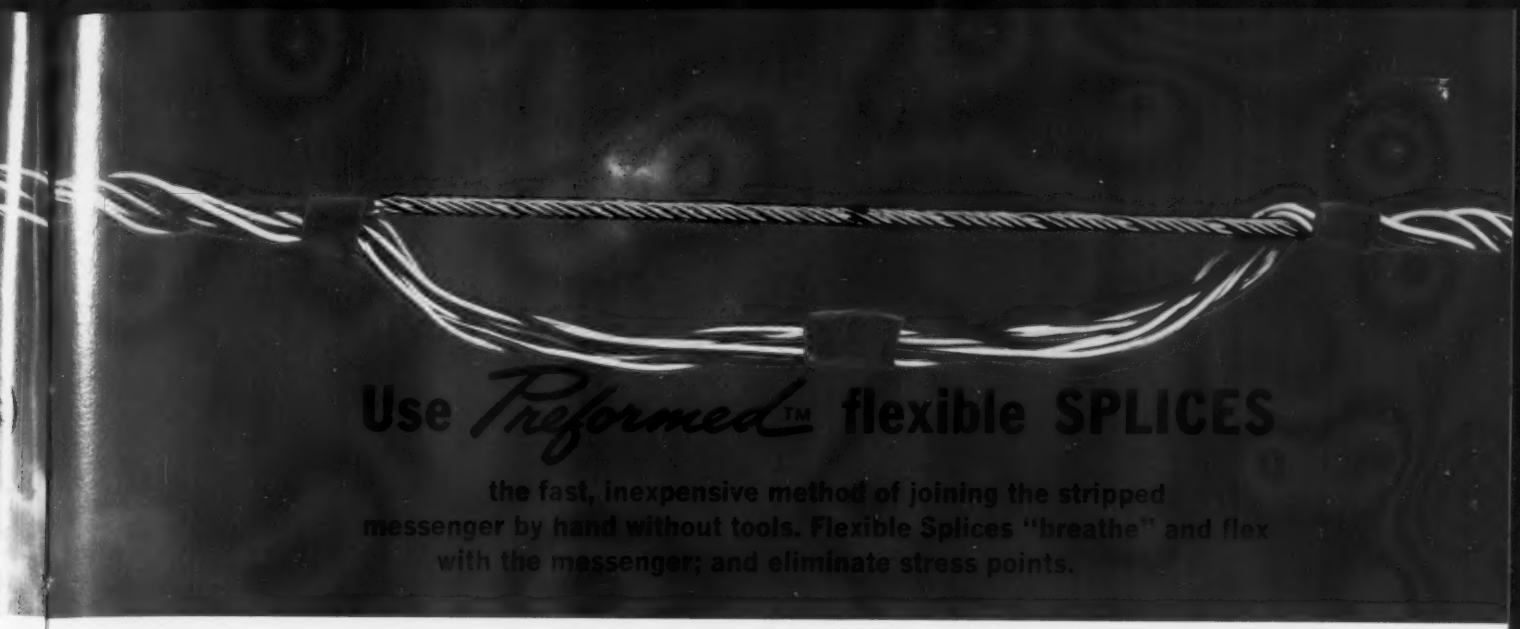

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NEWS ABOUT RAYTHEON TELEPHONE POWER SUPPLIES

Raytheon Company, Industrial Apparatus Division, Manchester, New Hampshire

RAYTHEON RECTICHARGER STILL IN SERVICE AT PEOPLE'S MUTUAL (VA.) AFTER 20 YEARS

Mr. E. B. FITZGERALD, president of People's Mutual Telephone Company with headquarters at Gretna, Virginia. The company founded by Mr. Fitzgerald's father 80 years ago serves over 1,600 subscribers in Gretna, Hurt and Renan, Va. Raytheon battery chargers are used in each of the three central offices.

Unit installed in December, 1939 when 80-year-old-company switched to dial

"Ours is a concern that grew from the most humble beginnings", explains E. B. Fitzgerald, president of People's Mutual Telephone Company, now headquartered at Gretna, Virginia.

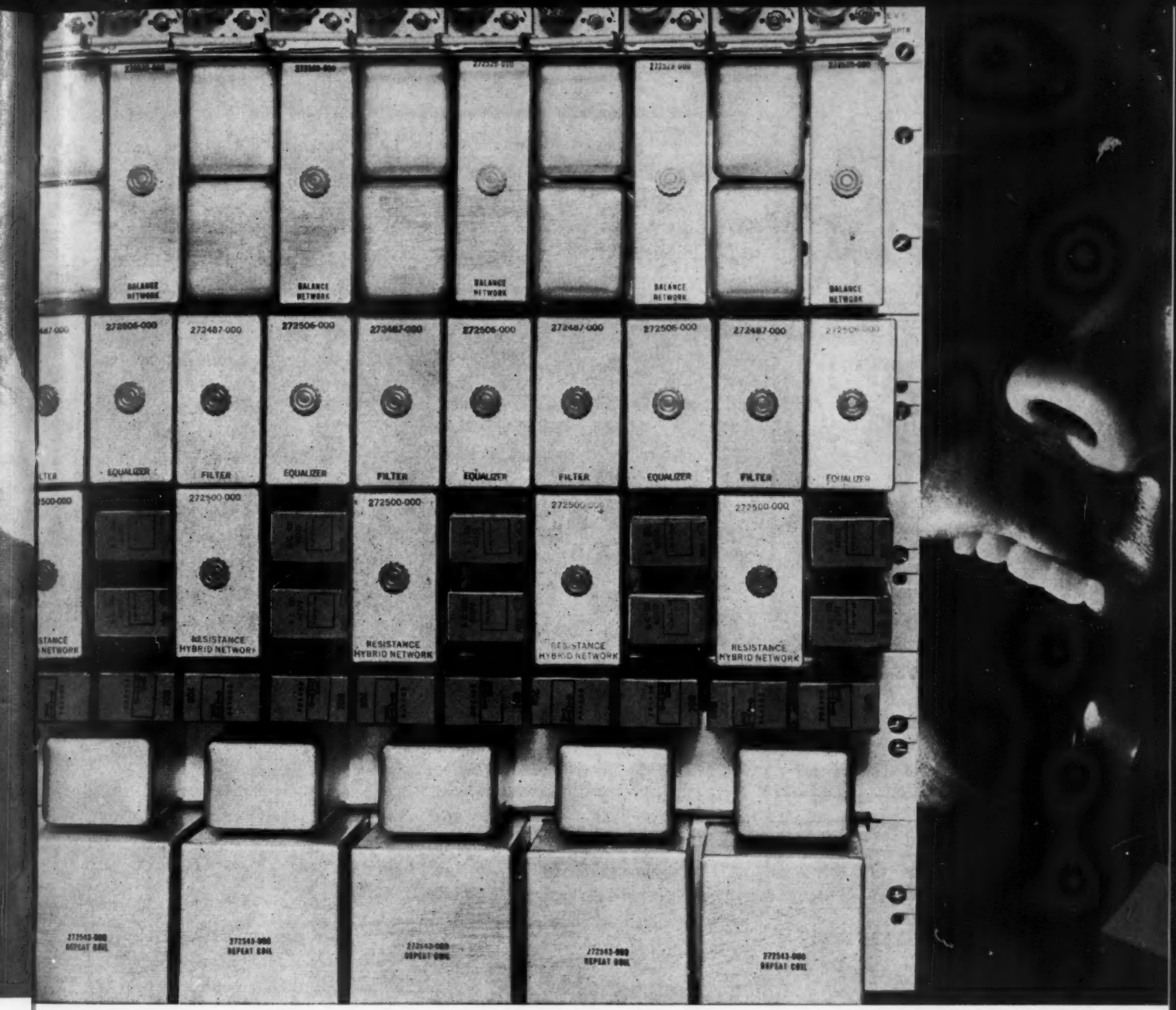
Mr. Fitzgerald goes on to explain that his father established a primitive communications system between his home and office some 80 years ago--the first installation using a large box-like diaphragm which acted as both mouthpiece and receiver.

When the company converted from magneto to dial in December, 1939, a Raytheon Recticharger was installed. Since that time, Mr. Fitzgerald reports, "despite the fact that our subscriber list has grown over fourteen times, the 3-ampere, 50-volt battery charger has performed its task with top efficiency, without failure or maintenance problems". Each of the company's three central offices is now equipped with a Recticharger.

E. B. FITZGERALD and E. B. JR. compare modern dial telephone with early telephone instrument used by the elder's father 80 years ago. The senior Fitzgerald demonstrates an early method of "ringing" by striking the diaphragm with a rubber hammer to attract the distant party. The twenty-year-old Raytheon Recticharger is on the wall between them; batteries are at bottom left.

To learn about the Raytheon 1960-model telephone power supplies introduced at the U.S.I.T.A. convention, please write to Raytheon Company, Manchester, N. H., for the latest product data.

Overcome high transmission loss...



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On circuits with high transmission loss, these voice repeaters provide the gain needed to achieve toll standards.

Their initial cost is low. Their in-use economy has been proved in *actual db per dollar*. Centralized maintenance means additional economy in terms of man-hours saved.

With "551" repeaters you get a system tailored exactly to your operating needs. You may use these for 2- or 4-wire operations; as through or terminal repeaters; for side or phantom circuits.

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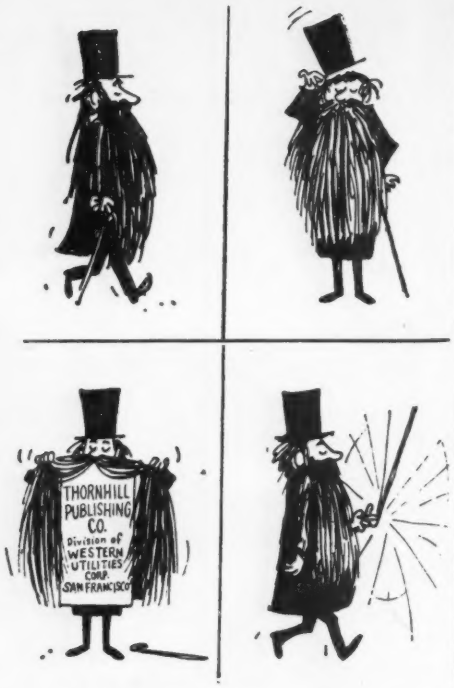

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LETTERS

"We Like You, Too"

TO THE EDITORS: — "Orchids for the following regular features: 'Accounting Notes' — Jones; 'Electronics Notebook' — Sands; 'Plant Notes' — Reed; 'Questions and Answers'; 'Traffic Lights' — Perigo; and 'Sub-harmonics and Overtones' — Ehinger (double orchids).

"The latter is a good one for me and a help for my son who hopes to become an electronic engineer. As a government communications engineer, the magazine is an important part of my daily growth."

Ralph R. McFadden,
4 Apollo Rd.,
Belvedere-Tiburon, Calif.

* * *

"Justifiable Complaint"

TO THE EDITOR: — "I have taken your paper for a number of years and have enjoyed the articles produced — very interesting and timely.

"I have noticed from time to time you have articles to personnel people as to how to treat new entrants and to prospective employes as to how to conduct themselves at interviews. One subject you have never touched on is the treatment to be given to an applicant who applies for work or answers an advertisement. The procedure carried out in all types of business leaves much to be desired.

"Look at your advertisers and you will note they ask for two things, pay required and a complete resume. Take pay required. This should be the prospective employer's question: 'What can I offer any competent employe for this type of work?' Then resume: — This entails a lot of work on the part of the applicant and sometimes quite an expense.

"Now what happens? The advertiser gets all the replies in, sorts out what he wants and discards the remainder. Common courtesy dictates that if someone answers, a reply is in order, even if only thank you. I have had the experience of putting in a stamped envelope and getting no reply.

"I had a good case in point when I answered an advertisement in your paper. I enclosed a complete resume and a stamped envelope. I requested that if the application was unacceptable to please return the resume. That is what the company did — without the courtesy of a thank you note. They had stamped on the back when it was received with the company's name. If that firm offered me twice as much as I now make I would refuse the offer.

"Hope you will see the point I am making and give an article on proper procedures for handling applications for employment."

Disgusted!

It is certainly time for someone to write an article on this subject. With your letter as a starter, we hope to pull in more letters from readers with similar experiences. — Editor.

* * *

"Popular Editorials"

TO THE EDITOR: — "Enclosed you will find four copies each of the following editorials: "That Original-Cost Theory" (July 1, 1959 issue), and "Inflation Must Be Considered" (Sept. 15, 1959 issue).

"Fifty copies of each of these editorials have been made for inclusion in our forthcoming Division Managers' Conference Manuals. . . . We thank you for the privilege of reprinting this material."

Warren A. Rolph,
Vice President-Revenue Requirements,
General Telephone Directory Co.,
Des Plaines, Ill.

* * *

Oscilloscope Report

TO THE EDITOR: — "I have just finished reading your (*C. D. Ehinger's*) report on the OP-1 Oscilloscope and would like to take this opportunity to say that we find these reports

FROM READERS

very helpful in our work. I sincerely hope there is sufficient demand for you to find it possible to prepare a series of articles on the usage and operating procedures of the oscilloscope."

K. S. Sawyer,
C. O. Foreman,
N. W. Bell Tel. Co.,
Austin, Minn.

Many readers have asked for more articles on the use and operating procedures of oscilloscopes. Watch future issues of TE&M.—Editor.

* * *

"Handy Calculator"

TO THE EDITOR: — "In your issue of September 15, on page 49 you described a calculator for identifying pairs in color coded cables. I would like to acquire one of these calculators if possible, as I believe we can use several of these in our work. If you would arrange to have one sent to me along with a bill for it, and information on how and where I could order more, I would appreciate it."

R. H. Ragle,
District Construction Foreman,
So. Bell Tel. & Tel. Co.,
Maryville, Tenn.

Write Slide-Chart Calculators, 2448 Brown Road, Overland 14, Mo. — Editor.

* * *

"She Deserved It"

TO THE EDITORS: — "Your cover picture of Miss Grace E. K. Brown on the October 1 issue was certainly highly appreciated by all of us here at the Chillicothe Telephone Company. Miss Brown was very happy about it, as were we all. You must have worked fast to get it on the October 1 cover. We wanted to give suitable recognition to her 60th anniversary, and your magazine's contribution was certainly a major one. For effective recognition, how can anyone do better than a picture on the front cover of a nationally circulated magazine? Please accept our very sincere thanks."

Robert McKell,
Vice President & Assistant Manager,
The Chillicothe Telephone Co.,
Chillicothe, Ohio

* * *

The "Teletrainer" Article

TO THE EDITOR: — "Congratulations on the fine write-up in the September 1, 1959 issue of "Telephone Engineer & Management' magazine on the use of 'Teletrainer' kits in local schools.

"It would be greatly appreciated if you would furnish us with information as to the manufacture and breakdown cost of a 'Teletrainer,' plus the 'Teacher's Guides' and 'Student Practices Cases' as outlined in the article."

G. Thomas Wells,
Assistant to the Personnel Manager,
The Winter Park Telephone Co.,
Winter Park, Fla.

Your request has been forwarded to J. G. Hardy, secretary, Illinois Telephone Association, Springfield, and by now Jack has probably forwarded complete details. — Editor.

* * *

Visitor From Formosa

TO THE EDITOR: — "Our company has recently had the privilege of entertaining a telephone engineer from Formosa, who is in this country under the auspices of the Federal Communications Commission. He became very much interested in our cable pressurization system, after reading the article in your Dec. 1, 1958 issue. We are taking the liberty of inclosing an article and picture published by the Middletown Daily Record, Sept. 4, 1959, thinking that it might be of interest to other telephone people."

Alton F. Bradner,
Plant Manager,
Orange County Tel. Co.,
Middletown, N. Y.

Engineer Stewart S. Li is interested in a popular subject. The story of his visit is in this issue (see page 35).

* * *

"Electronics Notebook"

TO THE EDITOR: — "Please send me the tear sheets from your 'Electronics Notebook' section, from January 1, through June 15, 1959 if available. I find them very helpful as I'm in the training department of General Telephone Co. of California.

Ford M. Wing,
Manhattan Beach, Calif.

The tear sheets are on the way. Now for two important questions: (1) How many TE&M readers are clipping and filing each section of "Electronics Notebook"?, and (2) How many TE&M readers would like reprints of the complete series? If each reader *of "Electronics Notebook" will help us answer these questions we may go ahead with an idea that will aid many industry members. — Editor.*

* * *

We hope you will keep your letters coming! They are telling us many things. For example this peek at the editor's mail brings you reader comments on (1) TE&M's feature departments; (2) poor handling of applications for employment; (3) popular editorials; (4) "Electronics Notebook."

"Letters From Readers" has been created to serve as a clearing house for ideas, comments and suggestions that will be helpful to all members of the telephone industry. Address "Letters," care of TE&M, 7720 Sheridan Rd., Chicago 26, Ill.

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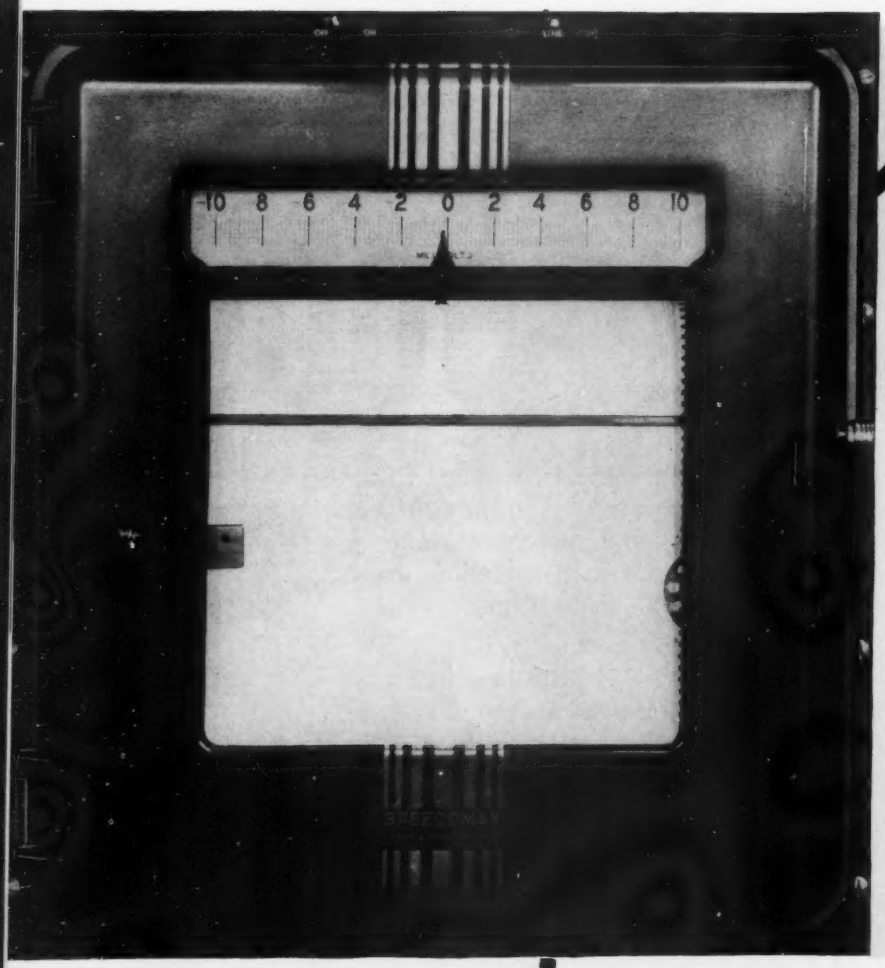

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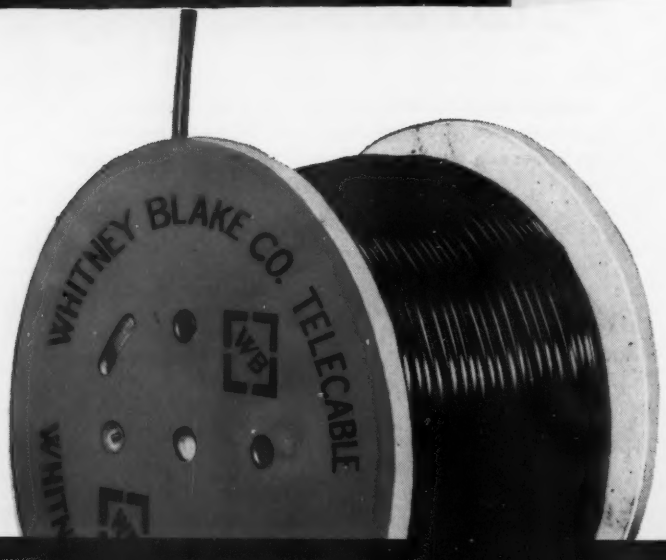

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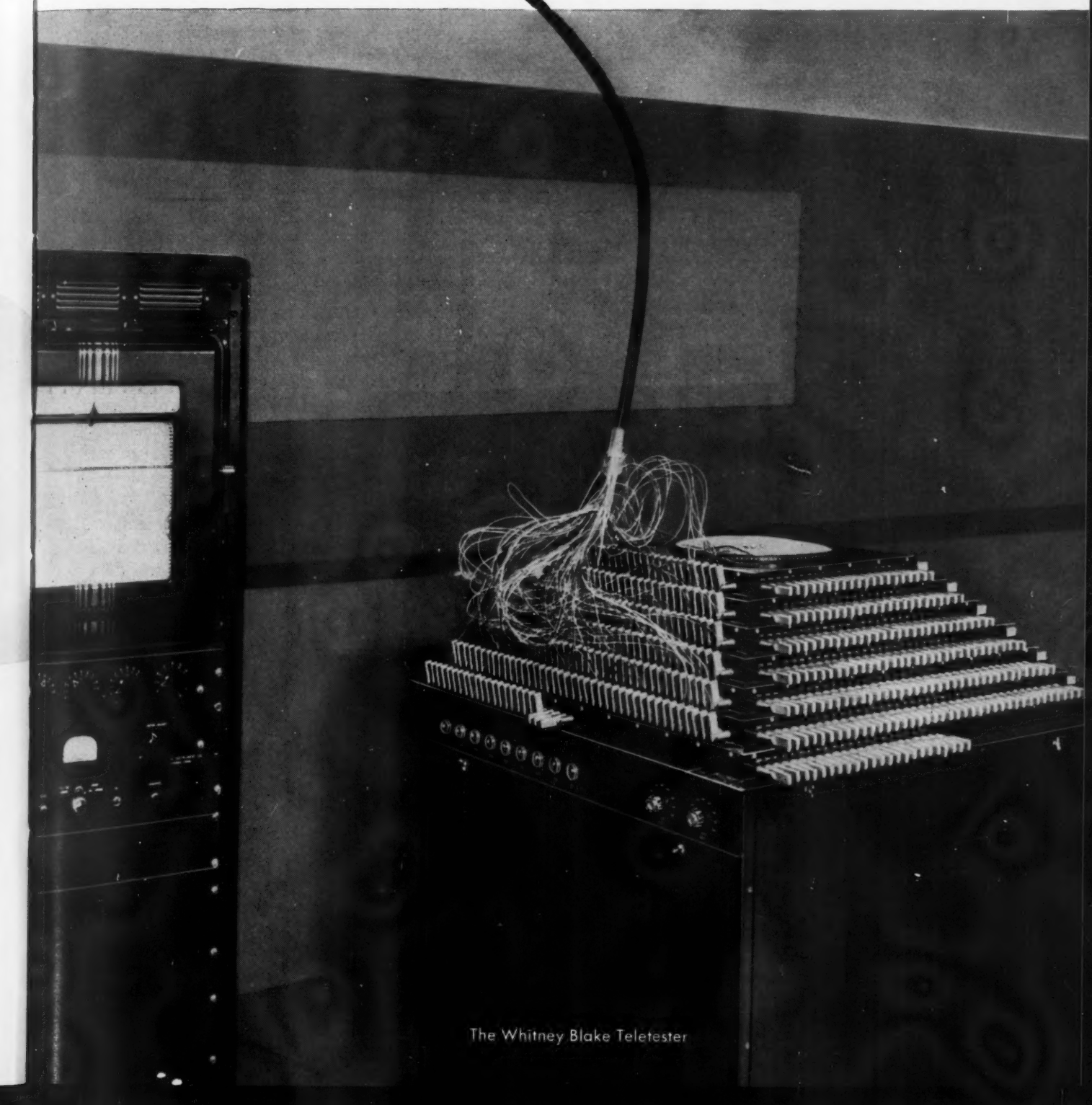

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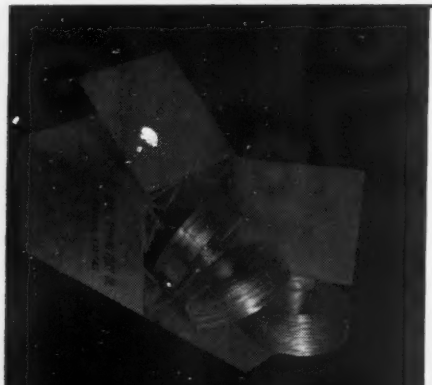

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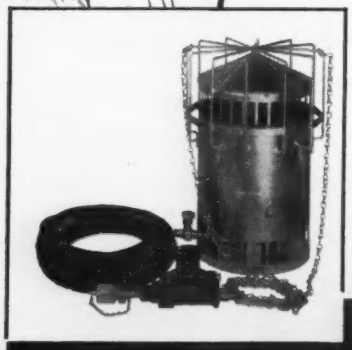

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WASHINGTO

IN THE NEW tariffs now in effect, but the subject of a Federal Communications Commission hearing, providing for connection of railroad company-operated communications systems with the exchange and toll network of the Bell System companies under certain circumstances, the Bell companies "have gone as far as the facts justify," Vice President George L. Best of the American Telephone & Telegraph Co. declared last month as witness in the FCC inquiry.

The sessions ran for two weeks in late October and early November, principally for direct testimony by and cross-examination of Bell System witnesses, and testimony of railroad company witnesses. (*See "Newsletter," page* 10.)

Three railroads protested the tariffs, which went into effect July 15 under the FCC order setting them for hearing, and five other railroads, along with the Association of American Railroads, have intervened in the case. The General Telephone Service Corp. and the U. S. Independent Telephone Association also are participating in the hearings, in support of the tariffs.

Power and pipeline companies have had connection privileges — similar to those of the railroads, but less extensive — under tariffs in effect since the outset of 1953, and their interests are represented in the case by the National Committee for Utilities Radio and the Central Committee on Radio Facilities of the American Petroleum Institute.

Bell System witnesses, in addition to Mr. Best, were Glen Ireland, vice president-operations of the Pacific Telephone & Telegraph Co., who outlined operating and policy considerations from the standpoint of the Bell associated companies; Walter K. MacAdam, AT&T assistant chief engineer, whose testimony described how the nationwide telephone system works,

...TON OBSERVATIONS

By ROLAND DAVIES and FRED HENCK

how railroad interconnections are made, and the operating problems resulting from the connections; and J. K. Looloian, AT&T private line rate engineer, who outlined what the tariffs provide.

A. T. & T. Vice President George L. Best tells FCC the Bell System companies "have gone as far as the facts possibly justify" in extending connection to railroads under the new tariffs now in effect. Pacific T. & T. Co. Vice President-Operations, Glen Ireland, outlines operating and policy conisderations.

Bell Witnesses Stress Dangers Of Unrestricted Interconnection

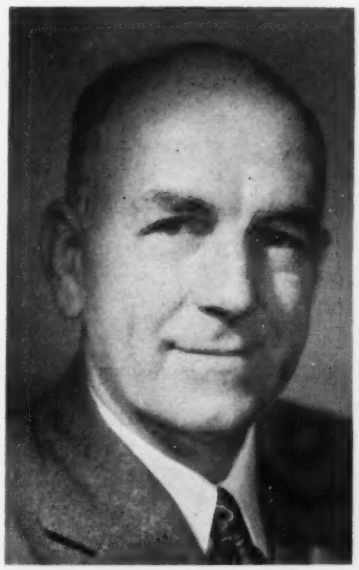
THE BELL SYSTEM witnesses stressed the dangers of unrestricted interconnection, particularly in terms of the effect on service to the public, maintenance difficulties, and divided responsibility for the service. They also pointed out that if customers are able to operate their own systems over routes where their costs are estimated to be lower than the common carriers' rate schedule, leaving the remainder to the telephone companies, the ultimate effect would be an increase in rates.

At one point in the hearings, in answering objections by opposing attorneys, AT&T Counsel Harold J. Cohen pointed out that one sentence in the FCC order setting the case for hearing said it appears that the tariffs extend to railroad customers privileges which are not permitted to customers generally. Mr. Cohen said it is important that the FCC be "satisfied that if there should be found in this case to exist any undue discrimination or preference, that such discrimination or preference should be eliminated by cutting back that discrimination or preference, and not by extension of the privileges to everybody else."

In general, the tariffs permit connection of railroad-operated circuits with exchange and toll facilities of telephone companies in cases of emergency involving safety of life or property, or where the railroad facilities are in remote or hazardous locations. They also include a "grandfather clause," under which connections with railroad right-of-way wire circuits in effect as of July 14, under the previously existing contracts between the telephone and railroad companies, are permitted to continue.

General interconnection with new railroad-operated systems, including those in which existing wire circuits are replaced by microwave radio over more than 50% of the distances between the points served, is not permitted. The latter provision has drawn some of the heaviest fire from the protesting railroads, on the basis that they need interconnection with the exchange and toll networks, and that they cannot, under the circumstances involved, replace existing wire facilities along rights-of-way with "modern" microwave operations.

Explaining the 50% limitation in interconnecting microwave circuits, Mr. Best pointed out that "When the telephone companies decided to continue the connection privileges for circuits which had such an arrangement on July 14, 1959, it seemed reasonable to include such repairs and rearrangements of these circuits as might be considered in the nature of normal maintenance. It also seemed reasonable to include in this category a replacement of an existing circuit of one type by a segment of another type of circuit, for maintenance or other operational reasons. An example would be the use of microwave radio for a river crossing.



GEORGE L. BEST, A T & T vice president, was opening witness in FCC inquiry.

"The adoption of the 50% limit was a compromise made because some dividing line was needed beyond which the circuit involved could no longer be considered as the 'existing' circuit. It seemed clear that if more than 50% of a circuit was replaced by microwave, it could no longer reasonably be considered as an 'existing' circuit."

Mr. Best stated that permission to the railroads to continue connection of existing railroad-operated circuits "probably should not have been done" from the standpoint of pure logic.

"The arrangements regarding such continuance which are included in the tariffs were finally decided upon after lengthy negotiations with (Association of American Railroads) representatives," he noted. "The railroads' investment in communications plant then eligible for exchange and toll connections was recognized, and such arrangements were made to avoid any hardship from an abrupt termination of the existing connection privilege. They offer a means whereby any difference in connection privileges between the railroads and the

WASHINGTON OBSERVATIONS

(Concluded from page 31)

other right-of-way companies will diminish as time goes on.

"As new facilities are provided by the railroads, the new regulations will, of course, be a matter of common knowledge and the railroads can adapt their operations accordingly."

Asked why right-of-way companies are authorized to connect their systems with the exchange and toll networks of the telephone companies in cases involving hazardous or remote locations, Mr. Best explained that "These companies operate along lengthy physical rights-of-way. The rights-of-way cross areas which even today in some cases present problems of hazard or inaccessibility to telephone company personnel and facilities. This gives rise to many situations where right-of-way company personnel can transmit necessary communications only through connection of the right-of-way company's facilities with those of the telephone company.

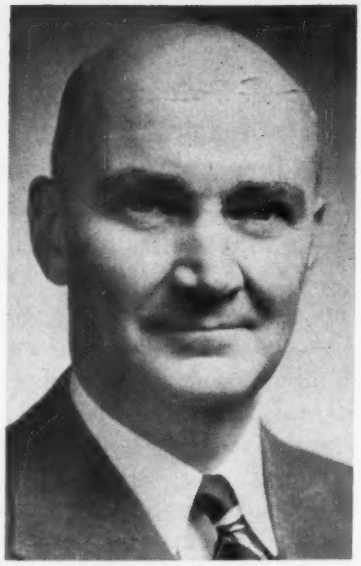
"The operations of these companies — the railroads, power, and pipeline companies — have unique public interest aspects. Since their operations are of direct and material importance to the public safety and welfare their communications requirements have seemed to warrant special treatment."

"Adverse Effects on Service"

AMPLIFYING Mr. Best's statement of Bell System policy from the viewpoint of an operating company official, Mr. Ireland gave three main reasons for his view that customer-provided communications systems should not generally be connected with the telephone company exchange and toll facilities.

He commented that "There would be most adverse effects on telephone service generally. These would apply not just to the customers who provided their own systems or facilities, but to all users of the service.

"The cost of the service would be much greater, and thus rates to the public would be more than would otherwise be necessary.



GLEN IRELAND, vice president-operations, Pacific T. & T. Co., outlined operating and policy considerations from the standpoint of the Bell associated companies at recent FCC hearing.

"Because of poorer service, reduced coordination, and reduced capabilities, one of the nation's most important assets — a strong, well-integrated communications system capable of meeting the needs of the country and of providing an ever-improving service — would be seriously and irretrievably impaired."

Should a substantial number of the telephone companies' largest customers decide to furnish their own telephone facilities, including local or long distance circuits, Mr. Ireland foresaw the following difficulties from a telephone service point of view: "enormous" complications in coordinating design, since a development engineer must allow for the worst conditions a new piece of equipment is likely to encounter; "divided responsibility" for design and engineering of long distance plant; much greater complexities in maintenance procedures, leading to more and longer troubles and increasing the over-all cost of maintenance; a "natural tendency" for customers to blame the telephone company for all service difficulties; and no assurance that customer-owned equipment would not be resold to another user without reconditioning, leading to further service problems.

"Higher Rates For Subscribers"

GENERAL connection of customer-provided facilities with the exchange and toll networks of the telephone companies would mean higher rates to subscribers for several reasons, Mr. Ireland testified. He noted that the various service and maintenance problems outlined would add to the costs of providing telephone service, and then advanced the view that customer provision of long distance circuits would lead to higher rates for two other reasons.

First, Mr. Ireland declared, since the telephone companies' rates are based on average costs, with some services costing more to provide than the rates charged, and some less, the normal tendency would be for the customers to provide their own services where their costs would be less than the average rate charged by the telephone companies, leaving the higher-cost operations to the telephone companies.

Second, he testified that the telephone companies provide circuits on heavy traffic routes at "considerably lower cost than individual customers," if for "no other reason" than that the cost of an individual circuit goes down sharply as the number of circuits on a given system increases.

The railroads which protested the tariff were the Southern Railway System, Atchison, Topeka & Santa Fe, and Illinois Central Railroad Co. Later intervenors, among the railroads, were the Missouri-Kansas-Texas Railroad Co., New York Central Railway Co., Chesapeake & Ohio Railroad Co., Chicago, Milwaukee & St. Paul Railroad, and the Chicago & North Western Railway. — *The End.*

(*Editor's Note*: *For later story see "Industry Newsletter," page* 10.)

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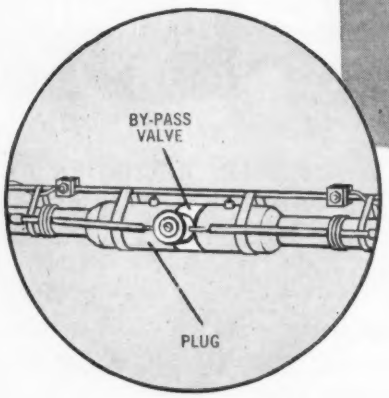

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PEOPLE IN

"Nicknames In The Directory"

RECENTLY the New Orleans *Times Picayume* told its readers about the telephone directory issued by the Breaux Bridge (La.) Telephone Co., and columnist *Howard Jacobs* deserves applause for digging out this unique idea of present-day Americana, which may in the future

EARL J. CONRAD, pres.-mgr. of the Breaux Bridge (Ia.) Tel. Co., Inc., holds copy of current directory, which features nicknames of subscribers.

affect moments of our daily lives, especially the *Johnsons, Jones', Smiths, Browns* and many others who have popular surnames.

Under the heading "Nicknames In Phone Book, Revolutionary," Jacobs stated that the Breaux Bridge Telephone Co. directory, which lists 2364 subscribers, contains nicknames of those subscribers who request that their nicknames be shown. For instance, there are two *Albert Broussards,* but the distinction is readily apparent when the second *Albert Broussard* is listed in parentheses as (*Tite*). Thus the possibility of confusion in identities is reduced and, in the case of acquaintances, eliminated.

Selected at random from the Breaux Bridge directory are such picturesque listings as Leblanc, Amilcar (Goon); Castille, Felix (Peco); Patin, Alex (Ti Shoon); Lamperex,

Julius (Papa Cairo); Castille, Royal (Pou Pou); and Dominingues, R. D. (Papoot).

Jacobs stated that such a practice might be very helpful in any metropolis where, for example, the telephone directory lists several John Smiths. A party wishing to find a John Smith he knows as "Pee Wee" would merely scan the list until he came to Smith, John (PeeWee), and he would pinpoint his quarry. And there would be small chance of getting hopelessly bogged down in the Joe Browns if the wanted Brown's nickname appeared next to his name.

"All in all it's a commendable innovation, and the Breaux Bridge Telephone Company," the writer states, "deserves much kudos for pioneering it."

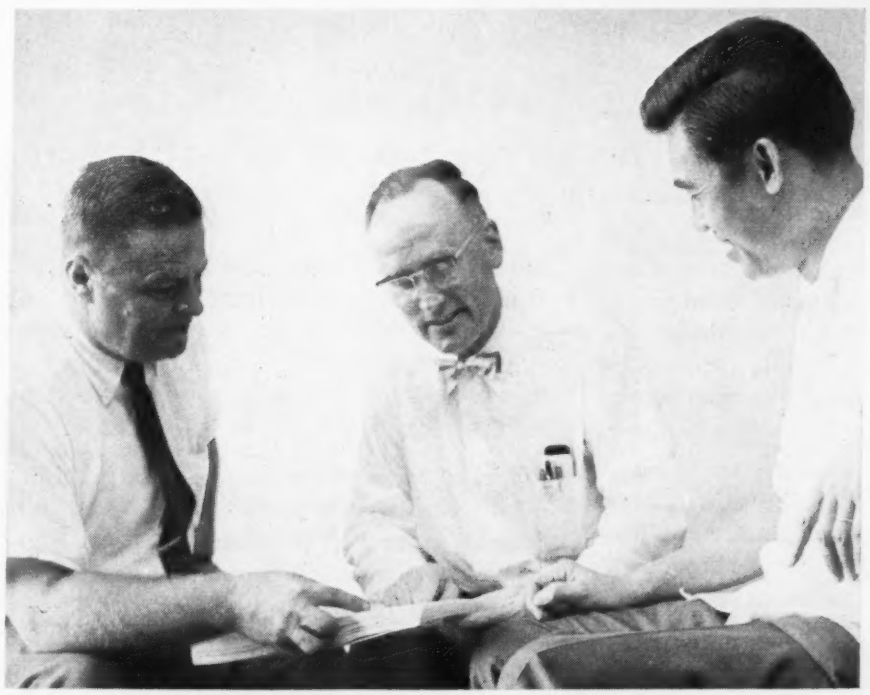
Formosa Engineer Visits Middleton (N. Y.) Tel. Co.

OFFICIALS of the Orange County Telephone Co., Middletown, N. Y., found themselves involved with international relations — or communications — when they were hosts to *Stewart S. Li*, who had come around to look things over in the telephone field.

Li, a telephone engineer for the Taipei Telecommunication Office on Formosa, received a 10-month communications tour to the United States and he has completed seven months of his stay under an itinerary worked out by the Federal Communications Commission.

Middletown was included on his lists of "musts" when he read about the new pressurized air cable protection system recently installed in the company's system ("Telephone Engineer & Management," December 1, 1958). For a week, officials conducted him through the plant and explained their plant organization.

Alton F. Bradner, plant manager, explained that the company found Li's visit educational for them as well, and expressed interest in telephone operations in Formosa. Li's company is government owned, but it must pay taxes and operate in every way similar to a private corporation. He says that although the system is not quite as modern, the company owns a tremendous variety of equipment from many countries. "The army has all the modern things," he says with a laugh. The company employs about 60 engineers.



STEWART S.LI (right), a telephone engineer from Taipei, Formosa, discusses types of available communications equipment with HOWARD UTECH of the Cook Electric Co. and ALTON F. BRADNER, plant mgr. of the Orange County Telephone Co., Middletown, N. Y. — ***(Middletown Record Photo by Bob Boone.)***

Frank H. Woods Award Presented To F. E. Smith

THE FRANK H. WOODS Bronze Award was presented to Francis E. Smith, combinationman of The Lincoln (Nebr.) Telephone & Telegraph Co., recently by company Pres.

Lincoln (Neb.) T. & T. Co. President THOMAS C. WOODS (right) congratulates FRANCIS E. SMITH, Lincoln combinationman, first recipient of a Frank H. Woods Award. Wire Chief B. D. PATTISON is in center.

Thomas C. Woods, Jr. Smith was instrumental in saving the life of four-year-old Rebecca Rae Logan of Lincoln on January 30 after she had been struck by a truck. First on the scene, Smith covered the girl with his coat and then applied digital pressure to severed blood vessels to stop a severe hemorrhage from the side of the head until the arrival of an ambulance.

Smith was the first recipient of a Frank H. Woods award, four of which were established by the company's board of directors in 1958 as a memorial to Mr. Woods, LT&T's founder. Awards range from a certificate of merit accompanied by a $25 cash gift to a gold award accompanied by a $2,500 cash gift.

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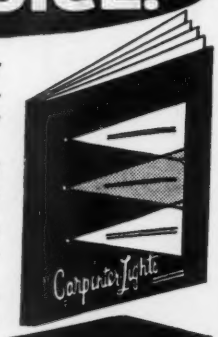

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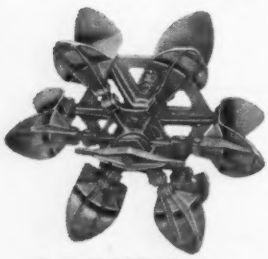

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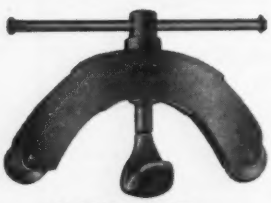

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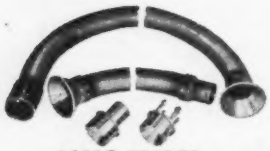

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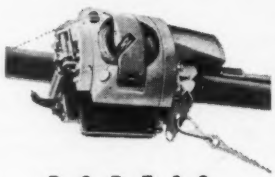

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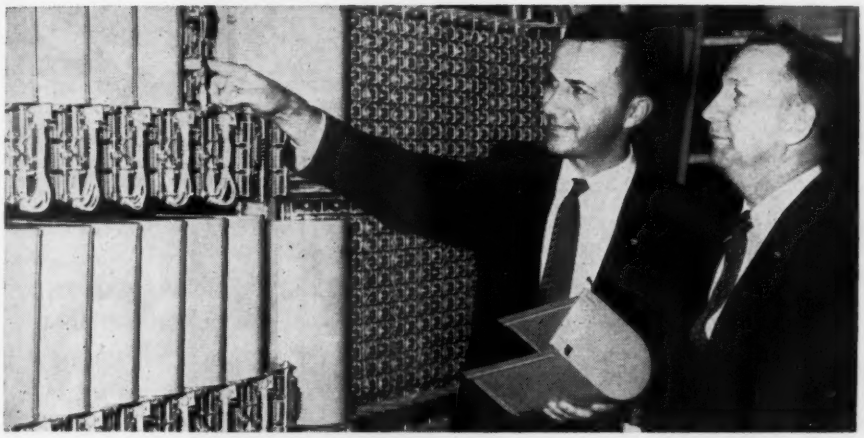
TELEPHO

R. L. (Dick) POST, public relations director for the Southwestern States Telephone Co., has been elected second vice president of the Texas Public Relations Association. The Texas Public Relations Association is composed of executives in public relations work throughout the state of Texas.

DAVID FINN (left), Gustav Hirsch Organization, Inc., engineer, receives the 1959 "Telephone Man of the Year" Award for the State of Alaska from BERNARD ROBIE, JR., president of the Alaska Chapter of the Independent Telephone Pioneer Association. The presentation was made at the opening session of the Alaska Telephone Association convention at Anchorage. The award was made to "the member of the telephone industry who contributed most to the advancement of the art of telephony in the State of Alaska during 1959."

PHONE INDUSTRY VIEWS



Farmville, Va., one of the last remaining manual exchanges operated by Virginia Telephone & Telegraph Co., was cut over to dial recently. The new exchange — 24th V. T. & T. Co. dial conversion since World War II — contains 1500 lines, 2500 terminals, automatic intercept equipment and a 2-5 numbering system. Photo shows EDWARD J. LORD, southern district plant manager, (left) and S. FENTON COLLINS, southern district manager, in switchroom of new exchange building.

Centenarian A. PHILETUS LUSE, at 106 years of age, the oldest resident of Sussex County, N. J., enjoyed the honor of being the first to make a DDD call through United Telephone Co. of New Jersey's new system at Newton. With a sage sense for telephone publicity, Luse dialed his grandson, Andrew P. Luse, a supervisory accountant for the American Telephone & Telegraph Co., New York City. Two great grandchildren, Andrea 16 and Richard Luse 12 shared the happy occasion. A pleased witness to the history-making call was WILLIAM THEURER, general manager of United Telephone Co. of N. J.

R. A. (BOB) LANE, pres. of Western Arkansas Tel. Co., explains new Russellville, Ark., equipment to (l to r): E. C. WEITZELL, deputy assistant administrator of REA, Washington, D. C.; L. D. BLAIR, attorney for the Arkansas Public Service Commission; and JAMES NEWTON, mayor of Russellville.

LOIS KEHOE has been named as assistant commercial manager of Western Arkansas Telephone Co., Russellville. The company serves the Arkansas river valley area with some 10,000 stations. Lois resigned as executive secretary of the Arkansas Telephone Association in September, after nine years service. She was also secretary to Lasley & Lovett, utility attorneys, for 12 years.

GLENN W. CURL has been named general equipment engineer of the General Telephone Co. of Ohio. Curl transferred to the Ohio company from Manhattan Beach, Calif., where he was supervising engineer for General Telephone Co. of California. His new headquarters will be at Marion, Ohio, where he succeeds Roy A. Worley, who recently retired from the company.

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EDITORIAL

"Earnings And Service Go Together"

AS 1959 moves into its final month it is apparent the top industry story of the year should rightfully concern the ever-improving service the nation's telephone companies provided their customers.

At first glance our placement of *service* at the list of the industry's accomplishments may seem to imply the telephone industry works contrary to the popular idea that the first duty of management is to make money for the stockholders.

However, as we see it, there is no real conflict between service and profits. Actually one depends on the other, for while it is possible to neglect service and increase profits for a short time, the records prove that over any reasonable period no company is likely to make a good profit on bad service.

And those same records also prove that over any considerable time the company that constantly provides the best possible service to its customers is at the same time providing the best possible protection to the stockholder's investment and income.

But while we applaud the telephone industry's evident dedication to the proposition that the only good service is an ever-improving service we do have one major concern. It is built around one question that goes like this: *Unless more people face up to the fact that the nation's telephone companies must have good earnings that will give the companies the financial strength they must have, can the industry continue making long-term commitments for further expansions and improvements??*

The chief cause of our concern can be found in reports, records, and news stories which indicate many people do not see eye-to-eye with the theory that *better business earnings do provide consumers with better services or products at lower costs over the long pull.*

This theory has been making the rounds for several years. Former Secretary of Commerce Sinclair Weeks used it in a speech before the Mountain-Pacific States Conference of Public Service Commissions in Reno in 1955 when he said: "*In my judgment, it is not only possible but almost surely probable that, in the regulated industries, the rates to the public would be lower and the service better, if the return on investment were higher and the stimulation to progress were thereby greater. . . .*"

But while the theory has been proved correct, we believe the average utility customer regards it as a paradox, and believes higher returns for the company would tend to increase the amount the customer would have to pay for service.

And right there, we believe, lies a problem that should receive the constant attention of the telephone industry. Somehow more voices must be added to the voices of those who are working hard at the job of proving the company with good earnings can afford to spend more money today for improvements which will bring about savings to future customers.

It is not enough that industry members understand and believe in this theory. Many others outside of the industry must be converted into believers. And until that job is accomplished thousands of the nation's telephone subscribers will never realize that:

(1) *The telephone company whose earnings are inadequate cannot afford to spend more today because the expenditure would push its earnings even lower;* and

(2) *The telephone company with poor earnings is forced to resort to short-term planning which may halt further decreases in earnings but will also deny the subscriber the benefits which would be his if the company could spend more money today.*

As we see it, public understanding of such facts is important to the telephone industry's future. Looking ahead, we see further expansion and further improvement of the nation's communications system — nationwide dialing, expanded area local service, and all the new developments still in the laboratory stage — *if* each company is permitted earnings adequate for financial safety.

We believe that *if* is important and bringing its importance to the attention of the nation's telephone users is a *must job* for all industry members.

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Press Relations - Boon or Bane?

By WILLIAM F. FOWLER*

There is no "wonderland" of perfect press relationships, but with the advent of a new era in journalism — an era in which greater objectivity and a higher ethical sense prevail — the service-minded telephone company utility has come into happier times with the press.

GERRY CANDELLA (left), Erie "Times" news reporter, gets data for telephone equipment story from HAROLD P. MISCHLER, Erie division manager, General Tel. Co. of Pennsylvania.

"GET THE MAYOR to blast the gas company," the city editor said. "I need a local top." . . . Now, some 20 years later, as a utility company public relations director instead of a cub reporter, the words haunt me with ironic persistence. The city editor was a good and honest newsman. But he needed a top. And so have city editors down through the years.

"Picking on" utilities, albeit a practice of a now waning era of journalism, still remains a prerogative of the newsman. The telephone company, the local power service and the gas and water utilities are still fair game for the press. And this is no indictment either of the press or of the utilities.

The same logic may properly be applied to this condition that applies to the regulation of utilities by quasi-governmental bodies. Like holders of political office, whether good or bad, we are irrevocably subject more than private industry or private citizens to journalistic appraisal. Fortunately, with the advent of a new era of journalism — an era in which greater objectivity and a higher ethical sense are prevailing — the utility has come into somewhat happier times with the press.

Newsmen today rarely find it necessary to "cook up" a story to fill a typographical void. The natural flow of news takes care of this need. Or when it fails, most newsmen today are far more sophisticated in their approach to the utilities. The exceptions to this general trend — and in smaller communities, they still flourish — create one of the minor missions of press relations practitioners for public utilities today.

But this is the simple, garden variety of press relations objective. There is another, far more elusive factor in the relationship of utility to journalism today — a subtle, finely drawn path, liberally strewn with stumbling blocks for the unwary.

There has been no dearth of help to utilities toward better press relations offered by newsmen themselves. "Open up," they enjoin. "Give us more human interest," they plead. "Translate the utility to basic English," they advise. "Give us some valid news — not the old familiar blurbs," is a frequently-voiced appeal. And these are all good, practical tips on how to gain more space and generally improved relations with the local press. Newsmen are universally willing to provide this sort of help, and probably, in most cases, suggestions such as these will prove fruitful.

In fairness to the utility, however, it may be suggested that this kind of remedy is only a palliative — something to smooth out the path between the doors of the newspaper office and the utility office. Many of the conditions which newsmen so fluently lament in their dealings with their local purveyors of telephone or other utility service have roots deeply imbedded in journalism's own garden.

There is, for instance, the condition so well and fearfully known to every utility man who has the responsibility of serving as a spokesman to the press — the possibility of misinterpretation and inaccurate presentation.

Mr. Fowler is director of public relations, General Telephone Co. of Pennsylvania, Erie, Pa.

There is no isolation about this example from my own experience: A telephone company spokesman, reporting an emergency resulting when a highway contractor's power equipment ripped up a length of cable, described the difference between cable in conduit and buried cable.

In the newspaper report, it came out this way: "The company spokesman explained that certain wires are sometimes encased in concrete or metal tubing. In yesterday's occurrence, however, the wires were simply covered with dirt."

Small wonder we have press-reluctant "company spokesmen."

The traffic flows on a two-way street here. Does the newsman misinterpret through the failure of the spokesman to provide him with a sufficiently graphic idea of the subject — or because he is unable or unwilling to apply a sufficient grasp?

The question favors the newsman's position, for it is inherent in his task that he do a good job of interpretation. He is primarily concerned with presenting facts accurately. He does himself no good by failing in his basic chore.

Purveying "news," on the other hand, is not necessarily the primary task of the utility spokesman, and he may frequently fall into the trap of believing that he *has* succeeded in conveying a point, and in convincing the newsman that he has it right when, actually, both are under misapprehension. The reporter must interpret. The benefit of the doubt in most cases must fall to him.

Convince yourself that you have given the newsman the best possible groundwork, and your fears of misinterpretation can well be minimized.

Most newsmen, understandably, have far too many diverse jobs to permit them to become experts on any single subject with which they may have to work. And the element of speed in transition from source to press often accounts for errors which make the utility man shudder. So the reluctance remains and festers.

"Educate Your Reporter"

ONE WAY to cure this familiar problem is to "latch on" to a reporter who shows more than average interest in your operations and make him more than ordinarily familiar with the jargon and practices of the industry. This may be done by interesting him initially in an especially good human interest story. Or it may be done simply by asking him in for no special reason to take a look at the inner workings of your company.

By working with a single man in this way, he becomes so obviously better equipped to deal with news affecting you that he may well be "assigned" regularly to "cover" your company. There is nothing unethical or culpable about such a practice and most newspapers will welcome your willingness to indoctrinate a specialist.

Complete honesty with the press is a truism, but it pays handsome dividends. The first time an editor finds he has been "had" by a less than thoroughly honest appraisal from a utility spokesman, you can be sure of continuing distrust and hostility.

Prepare Good Press Releases

SERVICE TO THE press, by way of supplying properly written copy and good, graphic pictures, is another of the routes to good relations. But it should be emphasized that no press release at all is better than one which needs time-consuming rewriting and call-backs to the source.

"How-To-Do-It" texts on good news preparation are numerous and should be among the desk-books of every utility spokesman. And don't be afraid, in writing news matter, to call a spade a spade. Old-fashioned practitioners, for instance, used to caution the utility spokesman against calling a rate increase by its proper name — a rate increase. They preferred to weasel-word their releases with such obvious terms as "rate adjustment" or "revision."

A breakdown in service may properly be called just that — not "an emergency situation."

One of the biggest faults in utility press releases is their tendency to assume that the press and public understand their trade terms. "Long Distance," for instance, is far better than "toll." Few laymen know what a "trunk" is. "PBX" is a mystery to the average housewife. Yet, these terms can be found sprinkled liberally through the press matter of most telephone companies.

The Best Route To Understanding

NEWSPAPERS of today do, however, understand the lingo of economic realities. Thus, many of the devices assumed by utilities today to present rate cases to the public are superfluous and, accordingly, unwelcome. A frank statement of need, reflected against a backdrop of the brand of service the community wants is the best route to understanding. And here is the seed of good press relations — and to favorable public relations.

The utility with a healthy attitude toward public

Please turn to page 71

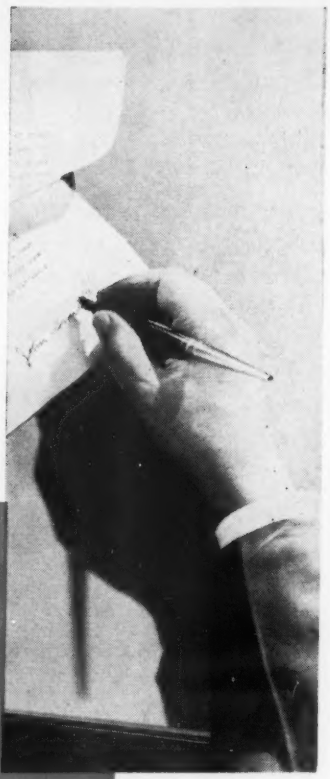
The Author WILLIAM F. FOWLER is director of public relations of General Telephone Co. of Pennsylvania, and for 17 years was a working newsman in Pennsylvania and Florida. As a feature writer editorialist and city editor, he had frequent occasion to view the telephone industry and other utilities from "the other side," especially when their functions brought them into the news.

A two-year stint as Public Relations Director of the United Fund of Erie County served him as a transition period before he joined General Telephone.

He is the father of five daughters and, like most newspapermen — turned — public — relations — men, he prefers to type his own copy.

By JAMES L. MORRISON

**Director, General Information,
West Coast Telephone Co.,
Everett, Wash.**



Preparing For The Rate Case

In this issue of TELEPHONE ENGINEER & MANAGEMENT, Mr. Morrison begins a discussion of proved-in methods of preparing for the telephone rate case. In Part One of his article, Mr. Morrison discusses (1) the rate relief program (2) how to use budgets; and (3) rate bases.

LET'S FACE IT! As practical businessmen we can figure on creeping inflation for the indefinite future. That is a minimum certainty. Sure, there still will be ups and downs in the economy over the short term, but as the term lengthens we'll be lucky if inflation doesn't get up and walk and then start running.

Everybody is against inflation, but few do anything about it. The big three, government, business and labor, hold the winning anti-inflation cards, but each expects the other to play first. While these three are pointing fingers, the general population isn't getting excited because at this stage of the game inflation feels good.

Telephone companies cannot escape the consequences of a shrinking dollar. More revenue will be needed to meet operating costs. Millions will be required to provide plant expansion and service improvement, and if inflation really takes hold most of these millions will have to be raised from the sale of stock.

Consider just who will lend "good" dollars for a long term if repayment is certain to be in "cheap" dollars? If we won't be able to secure debt capital, can we earn, under present regulatory concepts, the profits necessary to competitively service multi-million dollar equity financing?

These are not academic questions!

As an industry we cannot fight and win singlehandedly against inflation. We can, however, meet our inescapable responsibility to promote and obtain the most efficient and economical operation within our power. Let there be no mistake about that, and while we're at it, let's be sure it is a continuing effort. Then, having done this to the best of our ability, we still will need to knock at the regulatory door for periodic rate relief.

In fact, the regulatory bodies and the industry might just as well schedule rate applications in advance because the end of it all is nowhere in sight. Unless, of course, the fellows down in Washington start to balance the budget, labor stops asking for wage increases, and our suppliers decide they can safely reduce the price of a new switchboard.

If you are concerned about this inflation business you may wish to read on because the material to follow sets squarely on the proposition that periodic rate relief will be easier to obtain with proper preparation. If you are not concerned, then you might as well chuck this piece in the furnace. (*Ed. Note*: *O.K., but please save the rest of the magazine!*)

You probaby have had at least two rate proceedings in the past 15 years. If there are any exceptions the rest of us would like to have your secret! Chances are

the proceedings were somewhat distasteful. There may have been a customer or two who tried to make you out as a money grabbing, service denying scoundrel. (The author witnessed one hearing at which customers offered to escort the telephone man into the street for the announced purpose of bashing him in the head.) There may have been a lot of lawyer talk and possibly an accountant or two confused you by asking a lot of questions. Maybe you weren't certain about anything but you hoped it would lead to another two-bits per month so you could pay your bills. All in all, you don't relish doing it again.

Well, sir, you have a lot of company. No one likes to go through a rate proceeding. It is not a simple process. Most of us, however, make a lot of our own work and customer trouble. Not infrequently we approach the need for rate relief in an apologetic manner and right off the bat we have created a negative impression.

If you agree that the need for periodic rate increases will be with us for a long time to come, then there is no time like the present to turn this process into an opportunity instead of drudgery.

Advance Notice

WHO HASN'T heard the familiar cry at the ball park, "Can't tell the players without a program!" It is as old as the game. Well, the same kind of sales pitch applies to the telephone business because you can't tell the need for rate relief without a program. That is, of course, unless you plan to wait until you're practically broke before applying. If you wait, you may improve your chances for getting an increase but you'll also damage your credit, let service go to pot, and then require such a hefty increase to recover your financial health that customers will revolt.

Why not look at it this way? Chances are you have invested all you own in the telephone business. Like any other merchant on the street, you are in business for a profit. You don't expect to get rich overnight but you certainly don't want to teeter on the brink of ruin. In other words, you'd like to do business on a fairly even keel year in and year out.

You can! But not by accident. You must plan ahead and the type of planning needed is money planning. To maintain a fairly even keel, you need to know how much profit you can expect to earn this year. You need to know how your money will be spent, and you need to know if you'll have enough cash to pay for the things you want to do. You also need to know whether or not the profit you hope to earn is a fair profit.

Fortunately, all these needs can be satisfied in a fairly simple way. Our friends, the accountants, have certain tools which will do the job. Notice, especially, that these tools help you foresee the future.

(1) Operating Budget: — This is a month by month estimate of the income you will receive and the expense you will incure in operating your company. It should be divided into categories such as plant, traffic, commercial, etc.

Probably you have had at least two rate proceedings in the past 15 years. Chances are the proceedings were somewhat distasteful. But you have had a lot of company, for no one likes to go through a rate proceeding. It is not a simple process, but the tips Jim Morrison will give you in each chapter of his new series will prove that proper preparation for a rate case makes rate relief easier to obtain.

We hope each TE&M reader will carefully study each chapter of Mr. Morrison's article. His suggestions will prove that the company seeking a rate increase has an opportunity to do more than win a rate case. With adequate preparation, the company can educate its customers, build good will, and win new friends . . . (And here's a tip — TE&M's Educational Division will prepare a book containing all chapters of Mr. Morrison's article following publication of the complete series. Let us know how many copies you will need. The price will be $1.00 per copy.)

(2) Capital Additions Budget: — This budget sets forth, on a monthly basis, your planned expenditures for plant, service additions and improvements. With it you will be able to watch your investment and determine, with the aid of the operating budget, the point at which you start to earn less than a fair and reasonable profit.

In short, the operating budget will forecast a profit, if any, and the capital additions budget will tell you whether or not the profit is reasonable. You should prepare these budgets, one year at a time, for at least the current and next two years. Unless you have a very favorable situation, chances are fifty-fifty that you will need a rate increase within the next three years.

Don't take these tools lightly! The great majority of small companies have never prepared budgets. There is, however, no other way in which you can foresee the need for rate relief. Hunches are too risky and guesses can backfire. If you can afford to operate at a loss, then you have a peculiar talent that's wasted on the telephone business.

These budgets are not cure-alls. They are no better than the brainwork behind them. You can't expect outstanding answers from mediocre effort. In addition, they are meaningful only when compared with actual accounting results. Your accountant can show you how to get started with preparing budgets and if you have no accountant, get one. It will be one of the smartest expenditures you can make. Ask your neighbor, association or the commission to recommend someone experienced in telephone work.

The operating budget will show revenue from all sources and expenses for all things necessary to operate the business. The difference between revenue

and expense will be profit or loss. If it shows a loss now or in the very near future, then you'd better drop this and hightail it for the state house. You need money worse than you need to read.

If you show a profit that's half the battle, but even profit is or should be earmarked. If you've borrowed money, there is interest to pay. If you are a corporation (you should be, in one form or another) there are dividends to pay. After these obligations are cared for you should have something left over for a rainy day. Any way you look at it, you must have a reasonable profit.

Now, everyone is an expert on what's reasonable so we won't open that argument, but at this point your capital additions budget comes into the picture. It tells what you now have and what you will add to your investment. One way or another your plant investment will be the most important factor in proving your need for a rate increase.

We say "one way or another" because the 49 states differ in the way they figure a rate base. (A rate base, generally, is your investment or the amount on which you hope to earn a reasonable rate of return.) If you don't know how your state figures a rate base, ask the commission.

Let's take an example. Suppose your state has adopted an original cost rate base. Original cost means just that — the original cost of the capital items used to provide service. Suppose at the first of the year your books showed total plant of $50,000 and your capital additions budget indicates you'll add $5,000 more (net) during the year. By the end of the year you'll have $55,000. If your state uses the original cost approach you can expect the $55,000 to be reduced by the amount of depreciation on your books. This is done because you aren't supposed to earn a profit on plant that is worn out. Suppose your books show $10,000 depreciation, so you subtract that from the $55,000 to get $45,000. Next, your state probably adds something for materials and supplies, or working capital, or something else. Let's say it all adds up to $50,000. That's your rate base.

Right about here someone is going to shout, "Whoa! That isn't the whole story!" Agreed! But at this point you aren't before the commission. You are in your office and you want to know, in general terms, how you'll be fixed six or nine months from now. The refinements will come later.

On that $50,000 rate base you should be able to earn a fair rate of return. Since everybody is also an expert on what's fair, we'll arbitrarily choose seven per cent. Seven per cent of $50,000 is $3,500 and that represents profit. Now, pick up your operating budget and look at profit. For the first part of the year you may be all right, but by mid-year higher operating expenses and additional capital investment may reduce profit to the point where you won't be earning $3,500 per year. Furthermore, there is every indication that the drop will continue unless you reduce expenses, increase revenue, cease construction, or any combination of the three. That is your signal to get ready for a rate increase.

Warning! The example is an over-simplification solely designed to prove one point. The use of the two budgets will give you solid notice, months in advance, that a rate increase probably will be necessary. Actual accounting results will decide the matter. With this information, however, you will have ample time in which to prepare for an increase. That word "prepare" is the secret! — *To be continued in the next issue.*

JAMES L. MORRISON

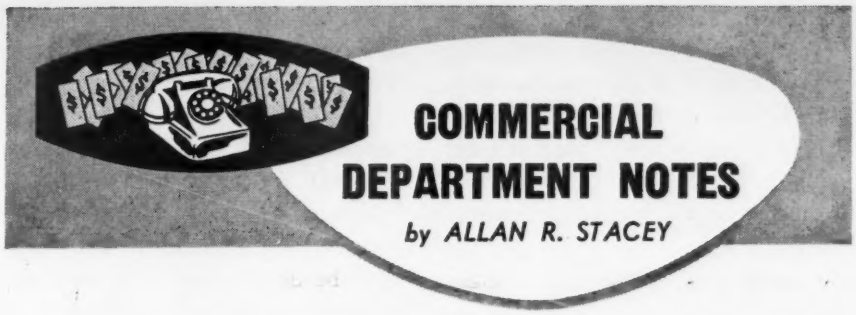
JAMES L. MORRISON was born in 1925 at Kansas City, Mo. He attended public schools, at Grinnell, Iowa. Entering military service in 1944, he served with 8th U. S. Air Force, England as a bombardier and was shot down while flying in combat and interned as a German prisoner of war.

After receiving his discharge in November, 1945, Mr. Morrison attended Grinnel College, Grinnell, Iowa, and Cornell College, Mt. Vernon, Iowa. He was graduated from Drake University, Des Moines, with Bachelor of Laws degree in 1950 and is admitted to the practice of law in Iowa and Nebraska.

Prior to becoming Secretary and Treasurer of the Nebraska Telephone Association in 1952, Mr. Morrison was a Special Agent of the Federal Bureau of Investigation, at Burlington, Vt., and prior to that service he was associated with the Iowa Telephone & Telegraph Co., Grinnell. At present Mr. Morrison is Director of General Information for the West Coast Telephone Co., Everett, Wash.

EDITOR'S NOTE

In the December 15 issue of TE&M Mr. Morrison will tell (1) how to turn the necessity for rate relief into a "golden opportunity for presenting telephone problems to the public in an educational and interesting manner . . ." (Your comments on this new series will be appreciated.)



"A Look At The USITA Convention"

Our Contributing Editor had a busy time at the recent USITA convention. Here's what he learned from (1) Willard Bain; (2) the Journey sisters; (3) Ray Riordan; (4) Lester Scott; (5) LaMar Stoops; (6) Jim Schneider, and (7) the conferences and general sessions.

THIS ISSUE will be the first opportunity I've had to express some reactions to the USITA Annual Convention in Chicago last October. I came away stimulated by the interest and vigor displayed by our operating people and the suppliers and manufacturers as evidenced by both sides of the house having a keen desire to improve our communications services. Time after time both operating people and suppliers stopped me to discuss new and improved ways of doing things or to tell me their success in solving a mutual problem.

To me this is the industry at work, sharing its experience so that we may all grow, and this is certainly the sign of a vigorous industry.

The author, ALLAN R. STACEY, is vice-president of the Sunland-Tujunga Tel. Co., Sunland, Calif.

Telephone Answering Service

WILLARD BAIN of Texas stopped me to ask about the experience of one of our companies that had recently started providing telephone answering service as a part of its basic telephone offering. He was interested particularly in an arrangement this company had whereby the light on the board in front of the telephone answering operator does not come on until the third ring. You may remember that the customary practice is for the operator to count the rings as the light flashes before her and then answer at the appropriate time.

This device eliminates the requirement for counting because the lamp does not light until a fixed number of rings has transpired (anywhere between one and 10 rings, provided the answering service board is in or near the same building as the central office). I told Willard I would be glad to see that he received a copy of this circuit, and this operating company's tariffs and training practices for telephone answering service. If you are interested in these, I'll be happy to tell you how to obtain them.

Conversation In The Hall

AS I WAS prowling through the exhibits, the *Journey* sisters of Higginsville, Mo., stopped me and talked about their experience with prewiring of subscriber premises. It was a pleasure for me to hear these ladies display such an interest in being progressive telephone managers.

Enthusiastic Secretary

RAY RIORDAN, secretary of the Wisconsin State Telephone Association, gave me a quick review of the successful telephone merchandising workshop presented by his association September 15 through 17 of this year. Apparently this was the first merchandising workshop held by a state association and Ray was extremely enthusiastic about the benefits to the Wisconsin Association member companies. Ray was bubbling over with enthusiasm for the workshop approach. I suggest that state associations interested in a merchandising workshop contact Ray for the results of his experience.

I plan to write more about this merchandising workshop in a future issue.

New Anti-Washer Device

ONE OF THE suppliers demonstrated to me a new device for rejecting quarter sized washers in paystations. This certainly should help us in reducing the number of builders' washers that appear in our paystations in substitute for a 25-cent coin. This device, coupled with another that rejects foreign coins, will help us control the slug problem in pay telephones.

Man From Oregon

I HAD A most enjoyable chat with *Lester Scott* of Oregon. He told me that as a result of putting into practice the Skip-Stop Paystation Collection Procedure, written up in the January 1, 1959 issue of TEM, he had saved 40% in manhours and 50% in cost compared with his previous paystation collection plan. I am glad to see that the experience shared in this column can be beneficial to our readers.

Lester had another good comment which I should like to pass along to you. He said that he had been asked to recommend practices and procedures for a sister telephone company and one of his strongest recommendations had been that "Telephone Engineer & Management" be circulated to lower levels of management as well as to the upper levels. He said that too many times "Telephone Engineer

& Management" stops at the manager of the company and does not reach the commercial supervisor or the traffic supervisor or others in the company who can benefit directly from reading the trade press.

An excellent suggestion, Lester, and one that we can all use. I believe that the management of every company should order enough copies of "Telephone Engineer & Management" to distribute to supervisors who work daily with the problems discussed in the trade press and management should assume the responsibility for seeing that these copies are circulated. (*Editor's Note: — We have a special plan for group subscriptions to "Telephone Engineer & Management." Drop us a line and we will send complete details to you.*)

USITA Marketing Slogan

ON DISPLAY in the main convention hall were two large placards with a slogan developed by the USITA Marketing Committee. The slogan reads:

EFFECTIVE MARKETING MEANS
MORE SALES
BETTER SERVICE
GREATER PROFITS

The USITA is also placing this slogan on the bottom of its member company monthly letters. It seems to me that every company and every state association could well adopt this slogan. Certainly effective marketing does mean for each of us more sales which in turn will produce better service for the subscribers and greater profits for ourselves.

The Commercial Conference

THIS YEAR'S commercial conference was particularly good in my opinion. *LaMar Stoops* of Nappanee, Ind., gave us something to think about in describing his company's approach to the directory cover problem. You have probably had the same experience that most of us have in that outside salesmen come into our exchanges and sell advertising on a special directory cover which is then mailed gratis to our subscribers to be placed upon our directory.

Mr. Stoops described how his company provides, at 25 cents each, a clear plastic, washable cover under which the subscriber can put either his own frequently called number list or a decoration of his own choosing. This is one answer to the foreign cover problem which is plaguing our industry. We'll discuss this question at greater length in a future issue of TE&M.

Another speaker described a door-to-door sales canvass that his company was running. He explained how his company had solved the problem of getting the sales representative inside the house by mailing, in advance, to the householder a letter saying that a telephone representative was going to call. Quite a bit of interest was demonstrated in this letter so I thought it might be worthwhile to print it for your use. See *Exhibit One* for sample of a letter that is useful for getting your telephone representative inside the door.

EXHIBIT ONE

A B C TELEPHONE COMPANY
8000 MAIN STREET
YOUR TOWN, U. S. A.
FLorida 3-1141

Dear Telephone User:

Your telephone company has as its motto, "Good Telephone Service For You." In order to do our very best to maintain good telephone service we are scheduling a routine visit for service inspection at your home. In a few days our service representative, a young lady, will make a visit to your home in order to inspect your telephone and wiring.

She will be happy to answer any questions that you have regarding telephone service while she is visiting with you. May we thank you in advance for your courtesy to our representative.

Very truly yours,
Vice President and Manager

One of the directory companies demonstrated to the commercial conference a small viewing machine weighing less than 10 pounds and costing less than $10 which could be used to display 300,000 listings on a film strip approximately 3 inches by 6 inches in size. Keen interest was demonstrated in this device.

It seems to me that one of the problems our industry must solve is the ever-increasing bulk of the telephone directory and what we can do to speed up information positions' search time and to assist the subscriber in finding his listings. I am glad to see a directory supplier taking a direct interest in this problem.

Supplemental Equipment Rates

I HAD A NICE talk with *Jim Schneider* of Northlake, Ill. He commented that one of the most helpful things that might be done today is to urge our operating companies to evaluate their tariff rate structure for items of supplemental equipment. He is certainly right. Many of our commissions are more willing to grant us increases in rates for supplemental equipment than basic service rates because these are items that the subscriber can accept or reject.

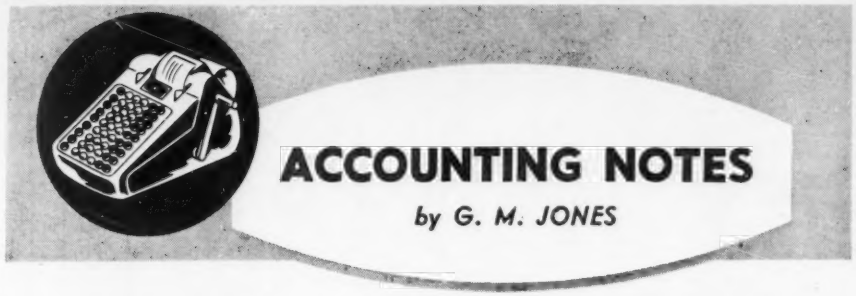
In a future column we'll take a look at some comparative rates for supplemental equipment.

The "Vista Booth"

DID YOU SEE the new type of paystation booth on trial in the public lobby at O'Hare Field in Chicago? This has a unique shape and looks like the nose cone to a three-stage rocket. The over-all shape is round and the unit is made of clear plastic and features a plastic sliding door. The exterior is grey and pink, and the floor covering is a speckled sky blue linoleum type material. The light is placed in the top center of the dome, and a shelf is provided for a standard 500-type handset. A separate coin box and coin collection chute arrangement is installed in the booth and apparently any standard type of telephone instrument may be used rather than the conventional pay telephone with a combined coin receptacle.

Next Issue

I COULD GO on and on with comments from people attending the convention but we must stop here. A convention is the best opportunity I know to talk face-to-face with others in our industry and that is why it is so helpful to many of us. Next issue I'd like to talk about some of the new products and services that were presented in the annual report of the USITA Marketing Committee or discussed at the Commercial Conference. I'll see you then. — *Allan R. Stacey.*



II: Depreciation-Theory and Practice

Part II of Doctor Jones' article on depreciation discusses (1) preservation of capital; (2) depreciation as a source of funds; and (3) depreciation reserves. Part One of this article appeared in the November 15 TELEPHONE ENGINEER & MANAGEMENT.

Objective: Preservation of Capital

ONE OF THE basic reasons for recording depreciation as a periodic expense, in the first place, is the recognition that failure to do so could lead to a dissipation of capital. The use of fixed assets (plant) is as much a cost of carrying on business, period by period, as is the use of labor or anything else which we pay for currently.

Failure to recognize this plant-usage cost period by period would result in the overstatement of net income, and would lead from there to a misleading assumption of the magnitude of earnings available for distribution as dividends; or conversely, to the presumption that selling prices for the product could be lowered safely.

In either case, long-run harm to the company would result from failure to secure and/or retain sufficient values in the business to keep its productive capital intact. To maintain the capital of a business, a sufficient portion of the revenues must be withheld from distribution to replace the facilities that produce income. The recording of depreciation as an expense is an accounting step which leads to the retention of a portion of the revenues.

The reduction of reported net income by means of depreciation charges does *not* mean that an equivalent amount of cash is set aside each year. It means that *values* are retained in the business, i.e., are reinvested in new plant, in receivables, supplies, and so on. Revenues from selling prices realistically set (to provide for covering depreciation as well as all out-of-pocket costs) are the means for perpetual replenishment of invested capital.

The Author, G. M. JONES, is associate professor of Accounting & Financial Administration, Michigan State University.

It is not too difficult to see that to preserve invested capital, what must be renewed from time to time is not the dollars themselves, but *the capacity to produce.* Consequently, in times of sustained price level increases, larger amounts must be obtained for replenishment of productive capacity. These amounts can be obtained from customers through raised prices, from government through lower taxes, from stockholders by reducing dividends, or from new investors through the issuance of additional securities.

It is the logical thing from a managerial point of view (and currently the popular position) to insist that the burden of capacity replenishment costs should be shared by customers through higher rates and the government through lower taxes on income, using in each case higher "depreciation charges" as the mechanism of adjustment.

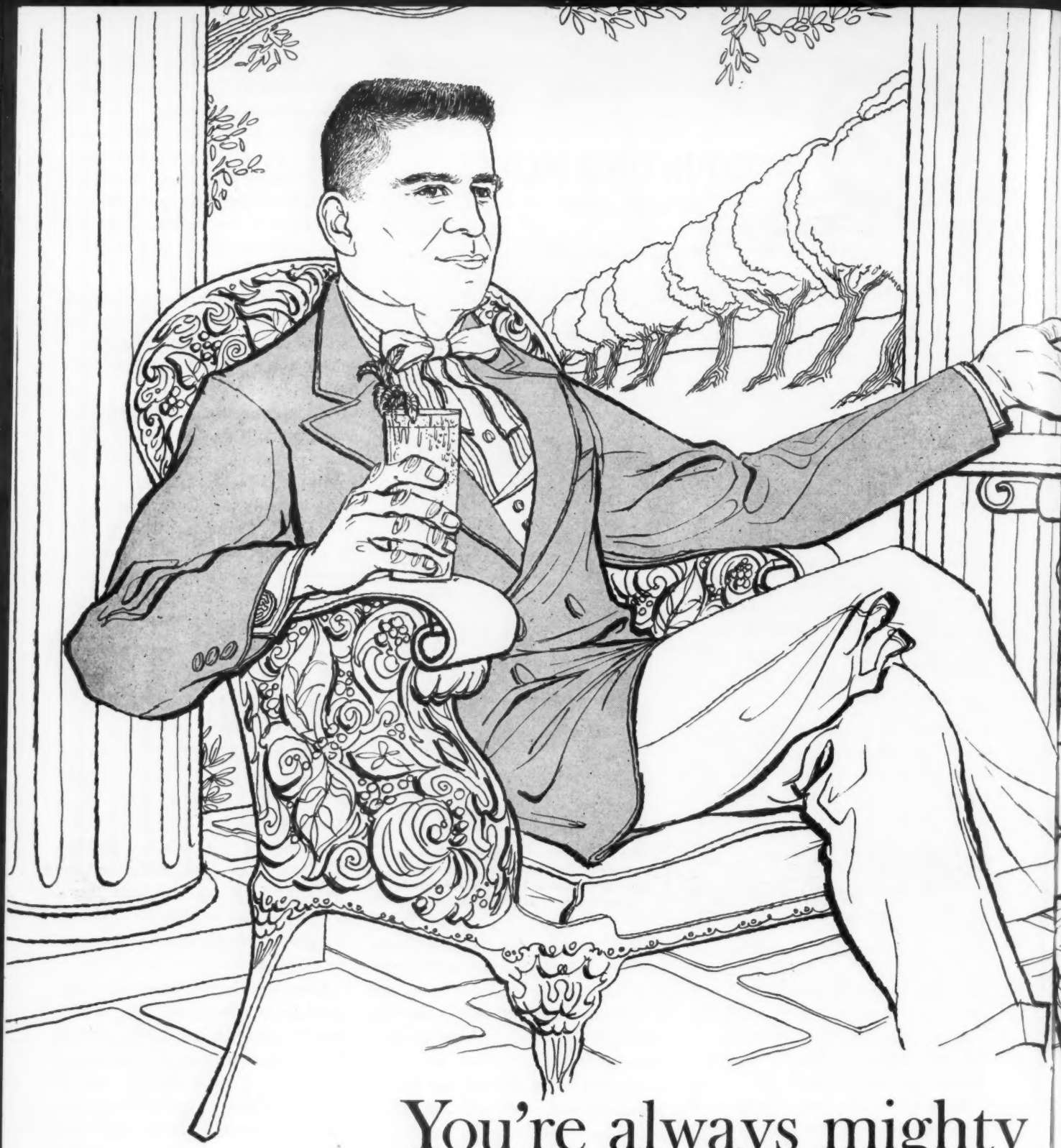
The many and vocal proponents of what is called "economic depreciation" are aware of the semantics involved — i.e., they know that there is likely to be more ready acceptance of an adjustment for inflation concealed within the accounting term "depreciation charges" than there will be if the adjustment is labelled for what it really is: "Loss Due to Inflation." My feeling is that the amount of capital erosion due to inflation should be tagged clearly on the corporate income statement, as a distinct *loss,* which would stick out like a sore thumb.

Depreciation As a Source of Funds

OCCASIONALLY we find an annual report of a company containing a statement like this: "Your company added $14,000,000 in new facilities this year, of which $2,000,000 were financed from the retention of earnings, $1,500,000 from depreciation charges, and $10,500,000 from the sale of additional common and preferred stock."

I am sure that the reader can only conclude that each of these sources actually provides an inflow of cash. True, earnings generally are represented by a net inflow of cash or cash equivalents (receivables). And sale of common and preferred stock does produce cash. But depreciation charges? These are merely accounting adjustments made to recognize the use, wear and tear, the effects of passing time, on plant and equipment. Now how could a mere accounting adjustment provide an inflow of cash?

It can't exactly. But the answer can be found in the way net income is determined. Revenues do provide an inflow of cash or cash substitutes (receivables, specifically). Expenses re-



You're always mighty

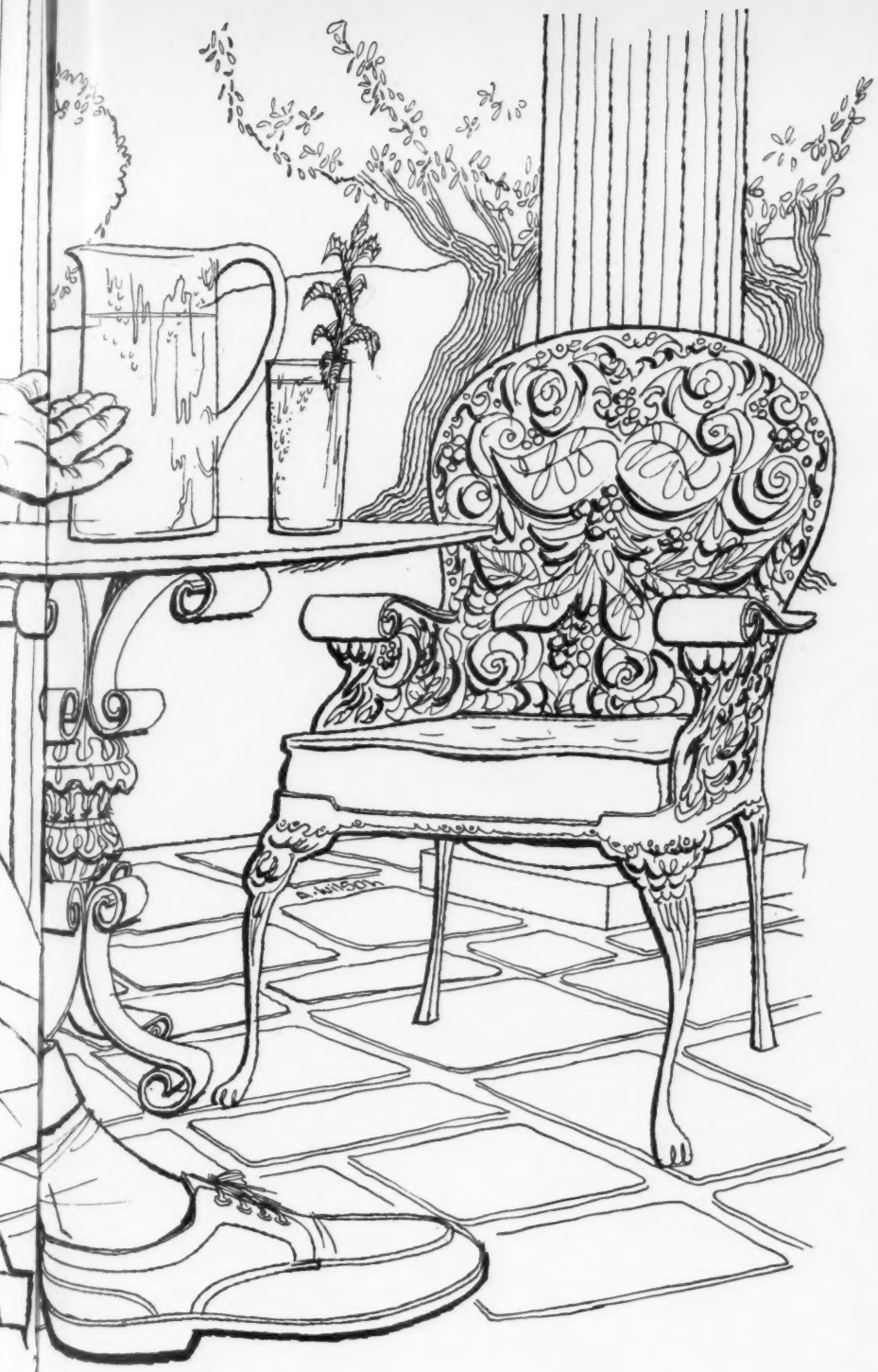
The tradition of hospitality for which the South is famous is *our* tradition, too—in Atlanta and in our other supply "plantations" from coast to coast.

We're always mighty pleased to have you call, because we really appreciate your orders for construction materials and supplies more than we can say. We enjoy doing business with you because you're such nice folks. You get the same hospitable reception

STROMBERG-CARLSON

A DIVISION OF **GENERAL DYNAMICS CORPORATION**

ATLANTA: TRinity 5-7467 • **CHICAGO:** STate 2-4235 • **KANSAS CITY:** HArrison 1-6618 • **ROCHESTER:** HUbbard 2-2200 • **SAN FRANCISCO:** OXford 7-3630



welcome!

whether you want a washer—or a carload of cable!

Our warehouse facilities, trained men and huge variety of supplies are at your beck and call. So you keep coming back. It's our pleasure to serve you.

Frank Kasper is one of our Atlanta hospitality specialists.

quire an outflow of cash or cash substitutes (payables, specifically); *except,* that some expenses deducted in arriving at net income do not require a current outlay of cash. The biggest such non-cash expense is depreciation. So we can say that not only does net income represent a net inflow of cash or cash substitutes (which together the accountant calls "funds"), but in addition, it is possible to retain funds in the amount of those expenses which require no current outlay.

The measurement of the extent to which depreciation "provides" funds is indicated in the Statement of Funds which is used by many controllers and treasurers in analyzing the flow of funds in and out of the company and, more importantly, in projecting next year's flow of funds as a help in planning money needs.

Depreciation Reserves: What Are They?

THE UNIFORM SYSTEM of Accounts froze into use, seemingly for all time, some accounting jargon that means little to non-accountants. One of the words that means little (because it is interpreted to mean vastly different things in varying circumstances) is this word *Reserve.*

To the layman, the word Reserve means something set aside for future use. It is money in the sugar bowl, or in the local Savings and Loan. Even Lord Keynes, the father of present-day economics, at one time complained of the corporations withholding all that money from circulation which they had tucked away in their depreciation reserves. More recently, a training annual for one of the larger telephone companies gave evidence of the same misunderstanding . . . . . "a depreciation fund into which allotments are assigned from income at stated intervals."

Account 171, Depreciation Reserve, does not represent money set aside. The amounts in this account are the result of regular periodic accounting adjustments for wear and tear, obsolescence, and use of plant assets. The account is not a fund. In rare circumstances, companies may set aside money equal in amount to depreciа-

tion charges. Such money, set aside, would be labelled as a *fund*, and would appear among the listed assets of the company. The Depreciation Reserve itself contains no money whatever; it merely constitutes the accumulated amount of depreciation which has been recognized accountingwise for income determination purposes.

Outside of regulated industries, much progress has been made in erasing this misconception of Depreciation Reserves, by means of a change in terminology. In earlier days, the word Reserve was used in three distinctly different senses. The first was what is called a valuation reserve, and was used in connection with Accounts Receivable, to indicate the extent of probable uncollectible accounts. In telephone company balance sheets, the Reserve for uncollectible accounts was one such valuation reserve. The Reserve for Depreciation also fell in this category.

In statements, these reserves were deductions from the corresponding asset to give a sort of net value.

The second use of Reserve was to show the existence of a liability, the amount of which was not quite certain.

Some examples: Reserve for Income Tax (before a final determination of amount due), Reserve for Product Warranties (the amount of future claims can only be estimated), Reserve for Employe Pensions (again, only an estimate).

These items were listed as liabilities right along with Wages Payable, Accounts Payable, and so on, but the amounts shown were estimates.

The third use of Reserve was strictly an accounting mechanism for earmarking a portion of the reported accumulated earnings (the Earned Surplus or Retained Earnings account), thereby indicating that it was unavailable for the declaration of dividends.

In none of these uses was there necessarily a setting aside of money. In a few instances, some contractual arrangement with outsiders (bondholders, for example) might require a segregation of money into a separate fund, but this was a rare exception. The use of the word Reserve itself *never* indicates anything to be done with company cash.

In more recent years, these accounts have been renamed, except in prescribed systems. Reserve for Uncollectible Accounts is merely called Estimated Uncollectibles, or Allowance for Estimated Uncollectibles, indicating that it has been taken into consideration in valuing the receivables, with no inference as to the setting aside of money. Reserve for Depreciation has been renamed Allowance for Depreciation, or better, Depreciation Accumulated to Date, with no hint of any creation of a fund of any sort. The estimated liability kind of reserve has been named exactly what it is: Estimated Income Tax Liability, etc. And the last category, earmarked earnings, has in many cases been eliminated (since it doesn't mean much anyway) or has been tagged with more descriptive title.

The word Reserve has been pretty well discarded because of its savings-account connotation. This is something that should be done in the Uniform System, too. It might help eliminate the mistaken idea that the Depreciation Reserve somehow contains money. — *To be continued.*

EXHIBIT ONE

Smith Company — Statement of Funds
Year ended December 31, 1959

Funds were provided by:		
Net income as reported		$ 54,000
Add back: expenses which were deducted in arriving at net income but which did not require a current outlay —		
Depreciation	$30,000	
Amortization of discount on bonded debt	1,500	31,500
Sales of surplus equipment		3,500
Issuance of bonds at a premium (Face amount $50,000)		52,000
Issuance of additional common stock		138,000
Total funds provided from all sources		$279,000
These funds were used to:		
Pay dividends		$ 2,000
Acquire new equipment		48,000
Retire old outstanding bonds		45,000
Purchase site for future plant		30,000
Increase sinking fund for employe retirement		15,000
Set aside for 1960 building program		120,000
Improve working capital position		19,000
		$279,000

There is a variety of names given to this report, such as:
Statement of Resources Applied
Statement of Sources and Application of Funds
"Where-got, Where-gone" Statement
Funds Provided and Applied

It is in the sense used here that depreciation as an expense does not use up any of the earnings inflow, that depreciation "finances" replacement or expansion.

SUBMIT YOUR PROBLEMS

You are invited . . . to tell our authors about problems on which you'd like to have an opinion.

While we don't claim to have all the answers, we'll welcome the opportunity to discuss as many as possible in TE&M's regular departmental columns.

Masonry Anchoring Handbook

A REVISED, enlarged edition of its "Masonry Anchoring Handbook" has been issued by The Rawlplug Company, Inc. The 48-page pocket size publication has been prepared especially for users of masonry anchors and drills.

A complete source of information on masonry anchoring, the handbook includes tables that show the proper anchors to be used with each type of fixture and material. Anchoring and the care and use of masonry drills are described and pictured.

Dimensions and specifications are given for each type of anchor and drill, and sections have been added on the "Saber-Tooth" self-drilling masonry anchor and other new products. An index simplifies looking up desired information.

For your copy write to: *The Rawlplug Co., Inc., 244 Ritersville Rd., Dept. TE&M, New Rochelle, N. Y.*

TELEPHONE ENGINEER & MANAGEMENT's

ELECTRONICS NOTEBOOK

By LEO G. SANDS

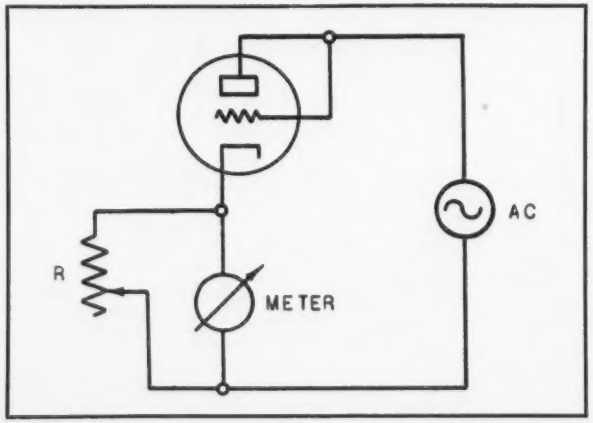
Only d-c flows through the load in the plate circuit of the thyratron since the tube acts as a grid controlled rectifier. The amount of time per second that d-c is allowed to flow is the determining factor.

3.7 TUBE TESTING

Tubes are tested for electrical merit, shorts, interelement leakage, gas and grid emission. The typical general purpose tube tester checks merit, shorts and gas. Only very few also check interelement leakage and grid emission.

3.7-1 MERIT

The electrical performance capabilities of a tube can be determined by measuring cathode current, plate conductance, dynamic mutual conductance or power output. Transconductance is a misleading term because it has to relate to something.



TELEPHONE ENGINEER & MANAGEMENT's

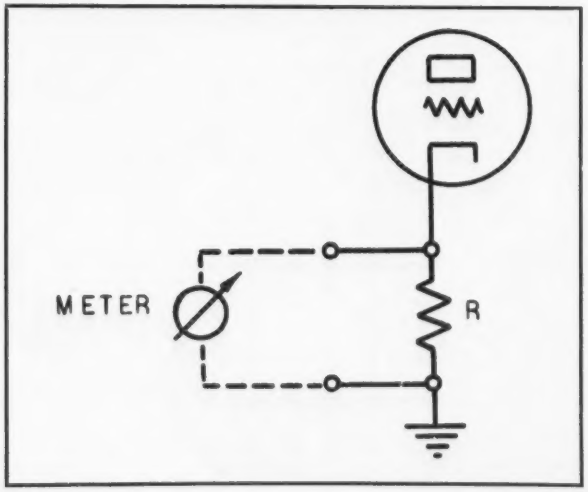
ELECTRONICS NOTEBOOK

By LEO G. SANDS

The most elaborate tube testers measure dynamic mutual conductance, which is a measure of the tube's performance with an a-c signal voltage applied. The variation in a-c current in the plate of the tube in relation to applied a-c grid voltage is the determining criterion.

Measurement of plate conductance is another popular method for testing tube performance. Measurement of power output is another useful and reliable merit test. But, most inexpensive tube testers measure cathode current.

This is simply a measurement of the d-c that flows through the cathode of the tube. In many testers, a-c is applied to the grids and the plate of the tube as shown in the simplified circuit. The meter measures the current (d-c) in the cathode circuit. This current is d-c because of the rectifier action of the tube. Resistor R permits adjustment of the good-bad scale for various tubes by shunting the current meter to vary its full-scale sensitivity.



TELEPHONE ENGINEER & MANAGEMENT's

ELECTRONICS NOTEBOOK

By LEO G. SANDS

There are many opinions about how tubes should be checked in service. This is done by providing metering jacks.

The voltage drop across R in the circuit shown can be translated into current — and tube merit. If R is 1000 ohms and the d-c voltage across it is one volt, the current flowing through R must be .001 amps or one milliampere since $I = \frac{E}{R}$. If the tube is weak, the voltage drop across R will be less.

3.7-2 SHORT TESTS

There are several ingenious ways to test tubes for shorts. Most employ one or more neon lamps which glow when continuity exists between any pair of tube elements. When tubes are tested for shorts, the tube should be tapped to uncover intermittent shorts.

3.7-3 GRID EMISSION TESTS

Only a few general purpose tube testers are equipped for checking grid emission. This is an ailment that plagues some tube types. It occurs when some of the coating material on the cathode contaminates the control grid. The grid is heated because of its proximity to the cathode. Since it has some of the cathode material on it, heat causes the material to emit electrons. The grid, therefore, thinks it is a cathode. Theoretically, the circuit shows what happens.

More Data For Your "Electronics Notebook" in the Next Issue.

Christmas brings out the best in a kitchenph

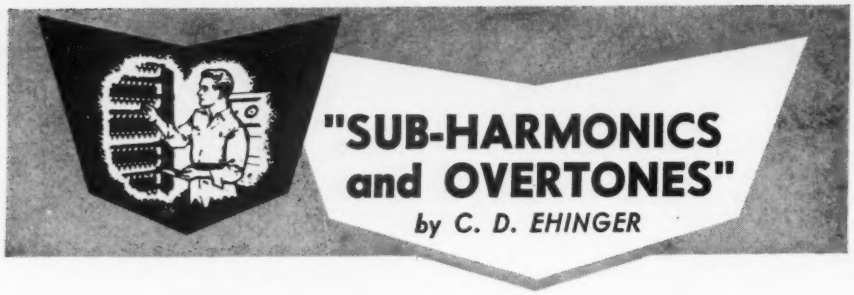
It's handy all year round, but never more so than in this busy season of fun and family get-togethers . . . when there's so much to do in the kitchen, and so many calls to be made and taken, too.

Then a kitchen extension phone really proves its worth by saving precious steps and time. Or, as we put it in the headline of a current full-color advertisement, "An extension phone in your kitchen saves you *everyday effort* so you can enjoy more *holiday fun*."

This ad will run in magazines read by millions of people—customers of every telephone company. It can lead to many new orders for extension phones, which will give these customers more convenient, enjoyable telephone service.

BELL TELEPHONE SYSTEM

phone



"The' Kid" Tackles Bridge Circuits

After a case of cable trouble had interrupted the normal routine at the Central Office, the Kid obtained a few answers concerning bridge circuits.

THE KID was having a rough time of it. The routine assignment sheet of the Centerville Exchange indicated he was to spend the entire day removing third selectors from their proper shelf, checking each relay in the selector against the current flow adjustment sheets, completely cleaning and oiling the switches, and then returning them to their proper shelf space. It was a job he did not exactly relish, mainly because he had not as yet become proficient in the use of the current flow test set.

He lined another selector switch into the test shelf and hooked up the test leads for current flow test on the "A" relay. He checked the adjustment sheets for the minimum current flow for "Operate" condition and set the lever switches on the current flow test set to their proper positions. Then he threw the "Operate" switch and the "A" relay quivered but failed to pull up. The Kid felt the irritation build up even higher. Another pulsing relay to remargin, and he still hadn't fully acquired the knack of properly margining the spring pile-ups on relays! He couldn't help but envy the proficiency and ease with which the old-timers zipped through margining and adjustment of relays.

The Kid could see Chuck Parr working at the test board of the Centerville Exchange. The Kid walked down the equipment room aisle, toward the test board and tried to look as though he were on some routine task.

The author, C. D. Ehinger, is president of Citizens Tel. Co., Decatur, Ind.

Chuck was so busily engaged in using the Wheatstone Bridge at the test board that the Kid did not interrupt him but watched as Chuck made several measurements. He would occasionally call to Chet over at the mainframe, "Chet, change the test shoe to pair 74, throw the other shoe on pair 61."

The Kid could then see Chuck busily talking to someone over the test board talking circuit and then again busily making measurements. The whole operation was slightly over the Kid's head so he nonchalantly walked back to the test bench and somewhat wearily began to margin relays.

After lunch the Kid noticed things seemed to have returned to a more normal state. Everyone in the equipment room was back on his routine assignment. Chuck walked up to the storage shelves, beside the test bench, and started to remove a vacuum tube volt meter.

"Hi, Chuck! Haven't had much of a chance to talk to you today."

"I guess that's right, Kid — things were sort of popping this morning."

"What the heck was going on, Chuck? Seemed like everyone, even Old Stoneface," (as he said this the Kid looked around to see that Jim Desmond wasn't near) "was a bit more excited than usual."

"Well, sure, Kid, everyone was on edge this morning. A 303-pair exchange cable that feeds part of the northeast section of town went wet and, brother, when that happens we all do a little jumping around until we have located the trouble spot and can get a splicer busy repairing the damage."

"I noticed you were using the Wheatstone Bridge. Is that the way you usually locate troubles on cables?"

"Well, Kid, in this particular case the Wheatstone Bridge looked like the best bet and I was able to make a fairly close location of the trouble spot. But let me tell you — whenever cable goes in trouble we'll use anything and everything if it will help us locate the trouble in a hurry."

"What happened, Chuck? What made the cable go in trouble? Someone chop into it, or something?"

"It's Easier When It Is Chopped"

"NO, KID, that certainly wasn't the case. It would have been a lot easier if it had been. Usually whenever anyone chops into a cable, or a ditching machine goes through, or something like that, it's a simple matter to find the trouble spot. In this particular case a fellow was digging a trench for a new sewer last year and went into the conduit and barely nicked our cable. He never reported what had happened and took some roof compound and smeared over the lead sheath and put a piece of tile over the conduit and then covered the whole works up. For a whole year, that cable hasn't given us a bit of trouble and it wasn't until

the heavy rains of last week that enough moisture soaked into the soil and finally caused the cable to go into trouble."

"Man alive, Chuck! I don't see how you ever locate that kind of trouble."

"Kid, believe me, sometimes they are mighty difficult to locate, especially if only the slightest trace of moisture entered the cable. I would a hundred times rather try to locate a case where the cable gets sopping wet than one where it only plays around with drawing in moisure and then drys itself out."

The Kid Gets A Respite

THE KID was mighty happy for the respite from the job of margining relays and attempted to prolong the conversation. "How do you go about locating them, Chuck?"

"Well, in this particular case I was able to use the Wheatstone Bridge and get a close location by using a Varley Loop. There are a lot of times when a wet condition in a cable does not produce a great enough fault for accurate bridge measurements. Sometimes we can burn them down enough to allow us to get a fairly decent reading."

"Burn them down! What the heck do you mean by that?"

"Well, we have a gadget here that allows us to put six to seven hundred volts direct current out on a cable pair which will sometimes arc across at the wet spot and create a lower resistance short — one that is good enough to allow accurate bridge measurements. I hate to use it because I am not always certain that it has actually arced across at the wet spot and so I usually hold it back as a sort of last ditch desperate effort."

The Kid was anxious to continue the conversation — anything to postpone his hated job of monotonous adjustment of relays. "Chuck, I keep bumping into this 'Bridge' stuff all the time while I'm boning up for my Novice License and for my Second Class Commercial License. Just what is a bridge circuit? And what is the theory of them? Can you give it to me in simple ten-cent language?"

Basic Theory Of A Bridge Circuit

CHUCK looked at his watch — "Yeah, sure, Kid! I have a few minutes and I think I can easily show you the basic theory of a bridge circuit."

He rapidly sketched on paper. (*See Figure One.*)

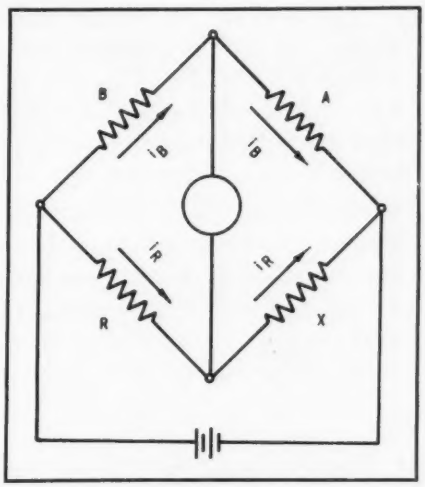


FIGURE ONE.

"Now, there is the basic circuit of a bridge circuit. If I take four resistance arms — I'll call them 'resistance B, A, R, and X' — and wire them as I have shown, with battery placed at the points indicated, and also place a very sensitive galvanometer where I have shown, I have the essence of any bridge circuit. When the bridge is unbalanced there will be current flow through the galvanometer.

"However, when the bridge is at balance, the galvanometer will show no current flow, which means that the current through arm B is identical with the current through the arm A and also that the current through arm R is identical with current through the arm X. It also means that if there is no current flow through the galvanometer, the voltage at the intersection of the arms B and A is identical to the voltage at the intersection of the arms R and X."

Chuck then wrote the following:

$E_{AB} = E_{RX}$

$\therefore$

$I_B B = I_R R$ and $I_B A = I_R X$

Dividing the two:

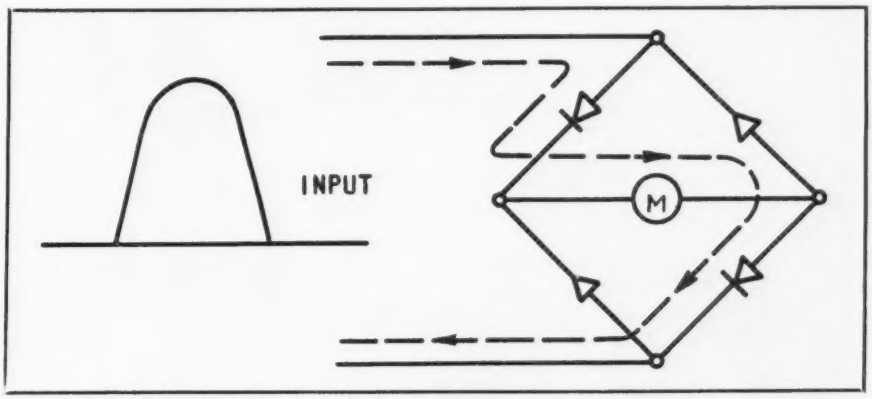


FIGURE TWO: — Current flow on positive part of cycle.

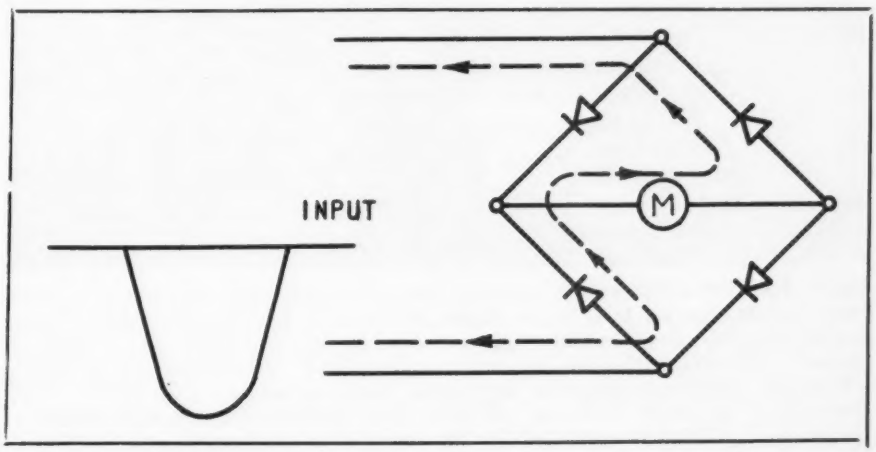


FIGURE THREE: — Current flow on negative part of cycle.

$$\frac{I_B B}{I_B A} = \frac{I_R R}{I_R X} = \frac{B}{A} = \frac{R}{X}$$

$$X = \frac{A R}{B}$$

Chuck continued his "lecture" — "Now, Kid, I think you can see that I can let an unknown resistance be the value for X and I can easily work up standard arms for the value of R and variable ratio arms for A and B. Under such conditions I can make very accurate measurements of resistance, dependent only upon the sensitivity of the galvanometer, the accuracy of the ratio arms, and the care which the operator of the bridge uses in balancing."

"For gosh sakes, Chuck, is that all there is to it? I have seen the equation, but that's the first time anyone's ever explained to me how to actually figure it out. — But I read about other bridge circuits in electronics. They keep talking about a bridge circuit for rectifiers, etc."

"Oh, sure, Kid. We use a lot of bridge circuits in telephone work. For instance, the rectifier bridge circuit which is used for ac meters." (*See Figure Two.*)

"For instance, this circuit uses 4 diodes and on the positive half of any wave form, current flow is as I have shown. On the negative half it goes through the other part of the circuit." (*See Figure Three.*)

"It means that current flow, through the meter, is always in the same direction so that we can use a dc meter to measure ac current. The same type of circuit is used to rectify ac but, instead of the meter, we substitute the load and a choke circuit and end up with direct current. We use practically the same circuit in the modulator circuits of our carriers. It's a necessary part of modulation when we are using single sideband. I'm sorry, Kid, that I have to make this so short — wish I had more time. We'll get into it much more deeply later."

Chuck again looked at his watch and strode off toward the test board while the Kid resignedly went back to margining relays. — *C. D. Ehinger.*

— 73 —

Any comments, criticisms, or suggestions for future topics? Address all correspondence to "Sub-Harmonics and Overtones," "Telephone Engineer and Management," 7720 Sheridan Road, Chicago 26, Ill.

A Big Day For St. Marys, Ohio

LAST MONTH General Telephone Co. of Ohio capped four years of mushrooming growth when it installed its 200,000th Ohio telephone in the home of *Mr. and Mrs. Joseph Lugar*, St. Marys, Ohio.

MRS. JOSEPH LUGAR of St. Marys, Ohio (left) compares her new telephone with an old-time set held by R. KARL JUDY, who was manager of St. Marys exchange at the time the old telephones were in use. Mrs. Lugar was a guest of honor at a recent celebration following installation of General Tel. Co. of Ohio's 200,000th Ohio telephone in her home. Looking on are (from left) DAN DeHAYES, executive secretary of Ohio Independent Telephone Association; MISS K. C. GEIGER, editor of the St. Marys Evening Leader, and CLARE E. WILLIAMS, president of General of Ohio.

The story of the telephone in St. Marys is nearly as old as the history of the telephone itself. More than half a century ago it appeared in the community, then of less than 2,000 in population.

A slight handful of persons enjoyed its use when it first was introduced around the turn of the century. Nowadays, it's a common fixture in St. Marys' households.

While telephone pioneers were hard at work elsewhere in the state and the country, several pioneers were blazing a trail in St. Marys. So fervent were they, comments of the day said they were "obsessed with an idea and builded on faith."

That obsession and faith gave St. Marys a niche in Ohio's telephone history. The state's first automatic dial system was installed at St. Marys — in 1903.

When the dial telephone appeared, with it came a man who has played perhaps the biggest part in St. Marys' telephone development. He was *Robert K. Judy*, who was named manager of the firm after directing the installation of dial system. Now 78 years old, Judy still lives in St. Marys. He retired in 1948.

PLANT NOTES ON NEW DEVELOPMENTS

by JOHN S. REED

"Howl" Cure For Public Address Systems

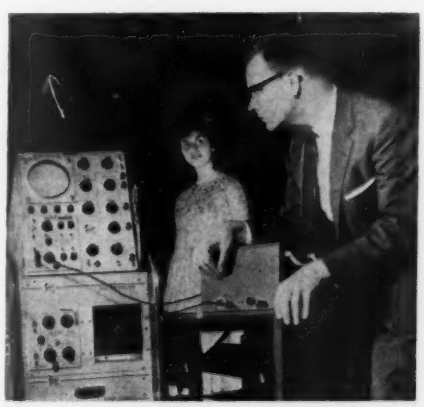
In this issue of TELEPHONE ENGINEER & MANAGEMENT, Mr. Reed reports on (1) new electronic method for preventing acoustic feedback in public address systems; (2) a new pushbutton telephone; and (3) new army technique for laying cable with a helicopter.

Preventing Acoustic Feedback In Public Address Systems

THE DISTRACTING howl of indoor public address systems caused by acoustic feedback of room reverberations can now be prevented without loss of gain by a new electronic method developed at Bell Telephone Laboratories. In fact, it permits a twofold increase in the loudness of a conventional public address system without producing instability.

Alternatively, for the same loudness, the new method offers a three- to fourfold safety margin against accidental variations in the amplification. These unpredictable variations in amplification — caused by heating up of amplifiers, different positions of the speaker or entertainer, and changes in the listening audience — are responsible for instability in public address systems.

JOHN S. REED, TE&M's technical editor, is plant methods supervisor, Lincoln (Neb.) Telephone & Telegraph Co.



As he switches on frequency shift modulator, Bell Telephone Laboratories' Manfred R. Schroeder observes reverberations of the voice of Terry Andrade at microphone in background. By shifting frequencies of room reverberations slightly as they feed back into microphone, acoustic feedback of public address systems is minimized and a twofold increase in gain is obtained.

Besides public address systems, acoustic feedback limits gain in other applications in which microphones and loudspeakers must operate in close proximity.

This new method of countering distracting and exaggerated room reverberations is the work of Manfred R. Schroeder, who directs acoustics research at Bell Telephone Laboratories. In 1954, he formulated a theory of response fluctuations inside a room which forms the basis of his invention. Dr. Schroeder's discovery resulted from studies in acoustics.

Key to the present development is a constant-frequency shift device, called a frequency shift modulator. It is inserted into the circuit between microphone and loudspeaker. When the input signal's frequency shift is made equal to the mean distance between the major peaks and adjacent valleys of the room's gain response characteristic, energy generated at the gain peaks is quickly absorbed in the valleys of the response characteristic after one trip of the sound energy around the acoustic feedback loop. Typically, the actual frequency shift required is five (5) cycles per second, an amount that is inaudible for speech and most types of music.

New Pushbutton Phone

A pushbutton telephone device that may eventually replace the rotary dial as the link between people and the telephone switching machine has been developed by Bell Telephone Laboratories.

Pushbutton calling has been made feasible by modern electronic advances, such as the transistor, applied in an extensive development program. Engineers have designed complex equipment to adapt central office switching to pushbutton signals. At the same time, the appearance and operation of the pushbutton telephone have, in so far as possible, been tailored to suit people's preferences and capabilities, as revealed in laboratory tests.

To place a call on a pushbutton phone, the user presses buttons instead of turning a fingerwheel. As each button is pressed, two simultaneous musical tones are generated and transmitted to the central office. The tones, which can be heard on the receiver, are similar to those now heard in some localities when long-distance calls are made.

The present switching systems do not respond to these tones since the equipment operates on pulses created by the telephone dial opening and closing the circuit to the central office. But because of the greater speed and convenience of the pushbutton system, a mechanical-electronic device, called a "translator," has been developed for adapting existing central offices to respond to the pushbutton tones.

At the same time, research has

been undertaken to discover which kind of pushbutton set people would like most and could use most rapidly and accurately.

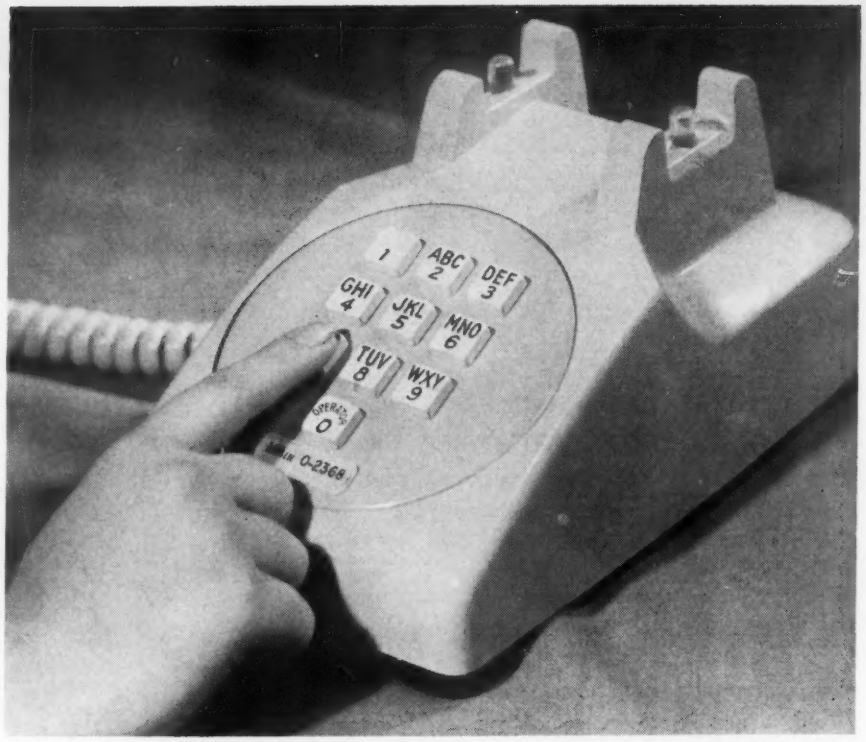
Hundreds of persons — including delicately manicured women, stubby-fingered he-man types, and near-sighted persons — have helped engineers at the Laboratories find out which button arrangements, size and "feel" might be best.

The selected arrangement of 10 buttons — one for each digit — consists of three horizontal rows of three each, plus the zero or "operator" button at the bottom. A pushbutton mechanism has been efficiently designed to fit into the same shell that now houses the standard instrument, simply replacing the rotary dial so that no extra apparatus is needed at the user's station. In the electrical circuit of the telephone is a transistor oscillator which generates a different coded pair of tones for each button.

The manual operation of signaling with pushbuttons takes only a fraction of the time needed for present dialing. The average time for tapping out a seven-digit number is about five seconds, although some persons can do it in less than two seconds. Rotary dialing, by contrast, takes an average of nine seconds.

The time taken for a pushbutton call to go through after the number has been signaled would depend on the type of switching system used in the locality. Where crossbar switching has been installed the time would be proportionately reduced. Where step-by-step switching systems operate, the number would be stored momentarily in a memory unit in the central office and the call would go through at slightly better than normal dialing speed.

Laboratory tests indicate that most people are enthusiastic about the pushbutton operation. Further information on the potential general acceptance of a pushbutton telephone is being measured in current customer tests with pushbutton sets temporarily placed in the offices and homes of 200 persons in Hamden, Conn., and 200 more in Elgin, Ill. Translating equipment has been installed in the central telephone offices of the two cities.



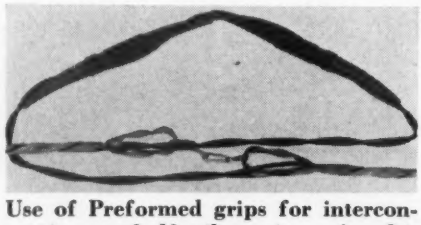
An experimental model of a pushbutton telephone being developed at Bell Telephone Laboratories is shown as it would be used.

New Army Technique For Laying Telephone Cables

A HELICOPTER technique for laying a new type of multi-channel telephone cable at speeds of up to 100 miles an hour, 5 to 10 times faster than previously possible, has been developed by the U.S. Army Signal Research & Development Laboratory and I.T.T. Laboratories.

When the necessary associated telephone carrier equipment is available, the new laying method will add speed and versatility to U.S. combat forces. It will utilize a compact package which hooks under a standard Army helicopter that carries 10 miles of telephone cable packed in zig-zag fashion to prevent snagging at high pay-out speeds.

Dropped from a fast moving helicopter, the cable can span bodies of water and previously impassable terrain to provide a vital communications link between combat headquarters. It is said that the same techniques could be put to civilian use to give rapid emergency communications in disaster areas.



Use of Preformed grips for interconnecting one-half mile sections of multi-channel cable laid at high speeds by helicopter. *Preformed Line Products.*

You are invited . . . to tell our authors about problems on which you'd like to have an opinion.

The lightweight telephone cable can carry 96 separate two-way conversations simultaneously, 8 times the capability of previous military lines. The cable is made in one-half mile lengths for repeater connections, requiring the use of connectors adequate to carry the high shock loads between the cable lengths. The illustration shows use of Preformed grips to provide the essential bridge between the cable lengths.

New Bell System Booklet

THE BENEFITS of advance planning for telephone service are listed in a new Bell System booklet, "Telephone Planning for Modern Commercial Buildings."

The 22-page, illustrated brochure

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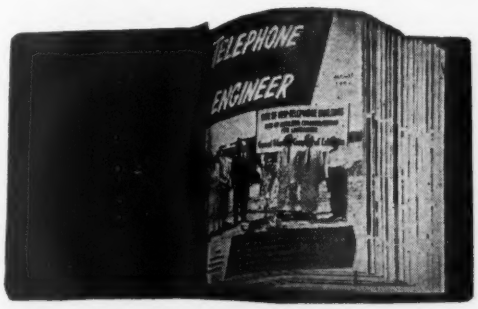

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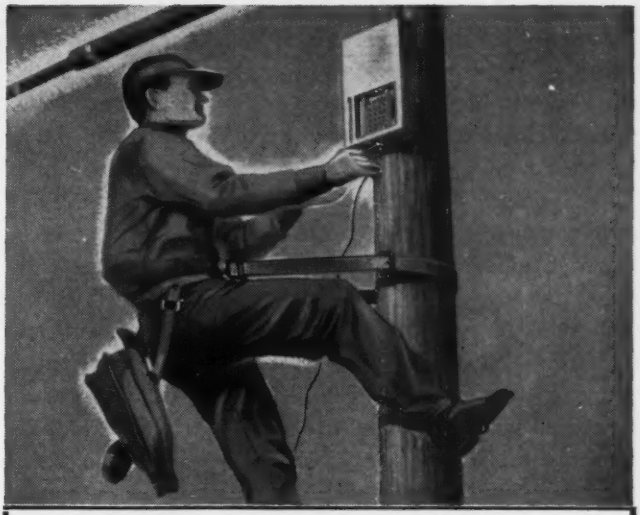

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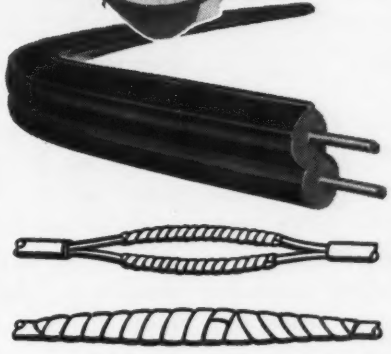

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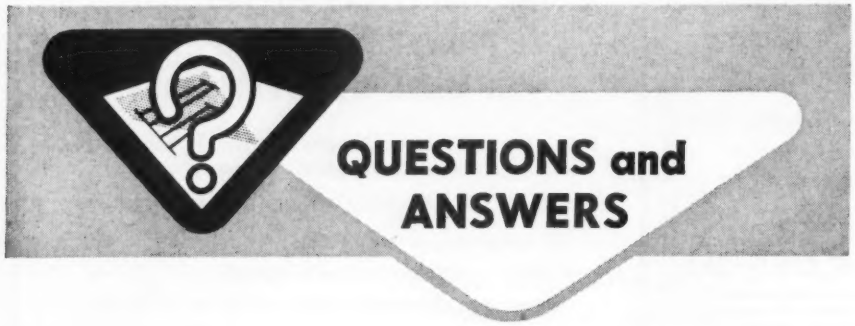
is designed for architects, builders, financiers, and building owners. It contains a step-by-step review of what is needed in the preliminary stage of construction to provide a modern, flexible communications setup.

The booklet points out that the more complete the facilities for telephone equipment, the easier the building is to rent or sell, and the easier it is to provide for the needs of future tenants. It explains that planning should start right at the drawing board, especially if provisions are to be made for such features as improved dial systems, speakerphones, telephone answering sets, and concealed wiring.

Among the planning points covered is the telephone terminal room, where incoming and building service cables terminate. The brochure says this room should be centrally located and on the ground level or higher to minimize interruption of service in case of flooding.

The booklet also includes sections on underground and aerial cable, use of conduit, the telephone cable riser system, and under-floor distribution systems, the last illustrated by overlay sheets to show the construction in a graphic manner.

Copies of "Telephone Planning for Modern Commercial Buildings" may be obtained from *American Telephone & Telegraph Co., Dept. TE&M, Room 510-C, 195 Broadway, N. Y. 17, N. Y.*



QUESTION: — *What do you consider to be advantages of aerial lifts for plant construction?*

ANSWER: — A properly designed aerial lift with hydraulic controls on the basket will save time in working on open-wire and aerial cable. The man is safer in the basket than if he had to climb the pole and work about it in his climbers and safety belt. Less physical effort is required to handle crossarms and pole hardware, tie line wires, trim trees to remove branches in the wires, and place messenger and cable. Labor savings are even greater if power tools are employed while working from the lift basket.

QUESTION: — *We have been using a pull-type cable lasher. This type of machine has to be towed accurately in line with the cable lead, otherwise it will not operate properly. Yet, there are some situations when the truck pulling the cable reel trailer and the lasher cannot keep in line with the lead on account of obstructions on the right of way. Has anything been developed to prevent that trouble?*

ANSWER: — The machine you are using is probably an old model which must be properly towed to prevent slipping of the drive wheels which would cause uneven spirals of the lashing wire on the cable and messenger. The more recent models are constructed to operate either by towing directly in line with, or from either side of, the lead. To prevent the slippage trouble, have one of the men pull down on the tow line when the truck has to move out of line with the lead to go around an obstruction. Alternatively, a canvas bucket filled with heavy pieces of iron may be suspended from the front end of the lasher. The crew must be on the alert to watch for the slipping of the wheels. If slipping does occur, the spirals will be too long. To correct this condition, stop the towing operation as soon as the lasher is observed to slip and rotate the drum from the ground a sufficient number of times to obtain additional spirals. It is then a simple matter to adjust the spirals to a uniform spacing after the lasher has been moved ahead.

QUESTION: — *Our employes are exposed to power contact hazards in working on telephone lines and we require them to wear rubber gloves where there is a possibility of exposure to a dangerous voltage. What tips can you give us on the care of the gloves?*

ANSWER: — Rubber gloves should always be used with inner liner gloves and leather protector gloves and be kept, when not in use, in a glove carrying bag. The inner liners are needed to provide warmth in cold weather and to absorb perspiration in warm weather. The leather protector gloves are required to protect the rubber glove from mechanical damage and abrasive wear. The glove carrying bags prevent damage to the rubber gloves when they are not in use and protect them from the sun's rays, which might cause deterioration of the rubber. The men should not use the leather glove protectors for any pupose, except that of protecting the rubber gloves associated with them. They should be required to inspect their rubber gloves for defects once a month and make an air test each time before the gloves are used. It is important to remember that rubber gloves will deteriorate even when not in use. This deterioration will be minimized if the gloves are laid out flat without folds or bends and are protected from light and from pressure by heavy objects. For storage in trucks, rubber gloves should be placed in protector gloves with the inner liner gloves inside the rubber gloves and kept in the glove carrying bag in a cool part of the truck, away from tools and materials.

You are invited . . . to tell our authors about problems on which you'd like to have an opinion.

TELEPHONE ENGINEER & MANAGEMENT'S

PLANT MAN'S 'SPEC' BOOK

(1) Cable Pressurization Procedures — Refrigeration Type Air Dryers

The development of high capacity air drying equipment makes it economically feasible for exchange cables to be pressurized. The use of air dryers eliminates the time consuming and expensive procedures previously employed to make cables gas tight. Extensive cable made ready is not necessary, since the air drying unit can be connected to the cable system with a minimum of advance preparation.

Complete pressurization with its attendant benefits is not immediately obtained with the initial installation of the air dryer equipment. Nevertheless, after the cables are plugged in the vault, and the air dryer connected, dry air flows into the cables. The effect is that the cables are made less vulnerable to moisture and main cables are immediately protected. Thus, with a small initial expenditure, 20 to 25 percent of the complete network is adequately pressurized.

After the initial charging of cables, a program can be scheduled to clear the larger leaks, to by-pass known plugs, and to block terminals that are not gas tight, consistant with available man-power and operational budgets. The large number of small openings present in exchange cables may be disregarded since air escaping under pressure minimizes the possibility of moisture entering the cable through these openings.

In this manner, the cable plant is conditioned after the application of pressure and then only to the extent that two pounds pressure is obtained at the ends of the farthest distribution cables. Only leaks that interfere with maintaining this pressure at the cable ends need be located and repaired.

TELEPHONE ENGINEER & MANAGEMENT'S

PLANT MAN'S 'SPEC' BOOK

(2) Cable Pressurization Procedures — Refrigeration Type Air Dryers

Air Drying by Refrigeration

Refrigeration drying is a simple operation. In operation, ambient air is compressed to several atmospheres pressure and delivered to an air storage tank where it is cooled to an average temperature just above freezing. Proper temperatures within the tank are maintained by the refrigeration unit and evaporator coil which are thermostatically controlled. As a result of the compression and cooling realized during these operations, approximately 98 percent of the moisture vapor present in the air is condensed in the form of water. A further reduction in the moisture content of the air per unit volume is accomplished during the expansion of the air from the high pressure in the storage tank to that maintained in the cable or other equipment. The condensate collected drains to a water ejector valve which discharges the water through a side outlet.

This process of moisture removal is capable of reducing the relative humidity of ambient air from 100 percent at high temperatures to less than 2 percent at 70° F.

The heart of a dry-air type continuous pressure feed system are the unit for removing moisture from the air entering the cables and the associated metering apparatus needed to check the amount of air passing into the cables.

The air-drying unit and metering equipment described in this section are the Puregas Equipment Corporation refrigerator compressor dryer and meter panel with volume recording gas meter and air rate

TELEPHONE ENGINEER & MANAGEMENT'S

PLANT MAN'S 'SPEC' BOOK

(3) Cable Pressurization Procedures — Refrigeration Type Air Dryers

flow meters. The Puregas air dryers are available in three sizes: the 750, 1500 and 5000 Model. The Model 750 is the smallest unit, being designed for pressurizing cables in small exchanges, toll cable stations, and repeater stations. The Model 5000 is used in large telephone exchanges having an extensive cable network. Model 1500 is intermediate between the two.

Description of Air Drying Units

The Model 750 Puregas air dryer (*Figure* 1) is capable of delivering continuously, 750 standard cubic feet of dry air per day, the equivalent of 3½ tanks of nitrogen gas per day. The Model 5000 unit shown in *Figure* 2 delivers 5000 cu. ft. of dry air per day at a continuous rate. During the initial charging of cable or during emergencies, the larger unit can produce 7000 cu. ft. of dry air for periods of up to two weeks.

Specifications for these two models of air dryers are as follows:

	Models 750 & 1500	Model 5000 Unit
Power Requirements	115 volts, single phase 60-cycle, 11 amperes	220 volts, single phase 60 cycle, 13 amperes
Size	22" wide x 15" deep x 39" high	40" wide x 20½" deep x 58½" high
Amount of Floor Space Required	2½ sq. ft.	5 sq. ft.

More Data For Your 'Spec' Book In The Next Issue.

Officers and directors, Tennessee Telephone Association for the year 1959-60 (l. to r.): E. D. HILDRETH, president; RANDEL S. BURNS, director; N. V. FERGUSON, first vice president; RALPH THORNE, director; JOHN E. SEXTON, second vice president; WILBUR SHELL, director; WILLIAM S. SLUSHER, immediate past president and director; SAM ANDERSON, director; J. M. TUGGLE, director; CECIL H. THOMAS, publicity director; M. V. WILLIAMS, third v.p.

Tennessee Telephone Association Holds 25th Annual Convention

THE TENNESSEE Telephone Association recently held its 25th Annual Meeting at the Hermitage Hotel, Nashville. Over 250 delegates, representing 33 of the state's 54 telephone companies, attended.

A high-point of the convention was an after-dinner speech by Tennessee's Governor Buford Ellington. Serving his first year in office, the Governor has already become noted for his encouragement of the state's industrial expansion. In fact, Tennessee's industrial growth will set a record this year. The Governor told telephone representatives that their organizations "are playing a vital part in the industrial development of the state of Tennessee."

At the opening session, delegates heard an address by David A. Hamil, REA Administrator. He praised Tennessee telephone companies for their cooperation in providing service to the state, and cited the progress made by telephone companies that had borrowed from REA.

Hammond Fowler, chairman of the Tennessee Public Service Commission, also addressed the meeting.

"The work of all Tennessee telephone companies," he said, "is making a better life for Tennesseans."

He added that the function of the Tennessee Commission is to see that telephone companies are neither starved by inadequate earnings nor given earnings that are unjustifiably high.

Delegates spent a major portion of their time listening to representatives of the telephone industry speak on various phases of the business. R. Parker Sullivan, vice president of General Telephone and Electronics Corp., discussed merchandising.

"There is nothing magical about merchandising," he told the group. "Its benefits are not attainable by any sleight of hand, or mirror trick, but rather it requires acceptance and application of a new business attitude, one that is based on the conviction that maximum profit dollars can be realized only when the customer is given complete service and to his

DAVID A. HAMIL (left), REA Administrator, and WILLIAM A. SLUSHER at the speakers' table for the opening session of the Tennessee Telephone Association Convention.

complete satisfaction and a willingness to make the changes necessary."

He then reviewed what General Telephone had done in merchandising, what it had learned from these experiences and how the company was relating these experiences to its present and future merchandising plans.

W. R. Jarmon, vice president of General Telephone and Electronics Corp., reviewed the progress and growth of long distance service during the past 25 years and highlighted what may be expected during the next two decades.

"Today, toll is big business and the most rapidly growing service of each and every telephone operator throughout the country," he told the group. "Profit potentials are great if all of us meet the complete communications needs of our customers for both local and toll calling."

H. J. Kleinhammer, general traffic manager of Inter-Mountain Telephone Co., discussed the use of Mark Sense toll tickets and the progress being made in operator toll dialing and DDD in Tennessee. Using color slides taken in a Tennessee Toll Center, he illustrated how toll tickets are being "Mark Sensed" by the operator and then rated and billed by machine. He pointed out that present plans are for all Southern Bell and most Independent toll centers to be converted to "Mark Sensing" operation by the fall of 1960.

New association officers elected at the convention for the coming year are: president, E. D. Hildreth, DeKalb Telephone Cooperative; 1st vice president, N. V. Ferguson, West Tennessee Telephone Co.; 2nd vice president, John E. Sexton, Inter-Mountain Telephone Co.; and 3rd vice president, M. V. Williams, Crockett Telephone Co. W. S. Howard, Millington Telephone Co., was re-elected secretary-treasurer. William S. Slusher, Ben Lomand Rural Telephone Cooperative, Inc., is past president.

Telephone Association of New England Holds First Annual Convention

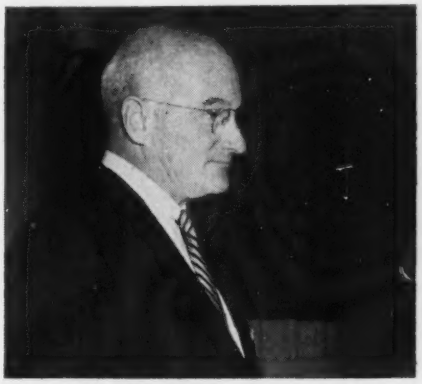
THE MAINE, New Hampshire and Vermont Telephone Associations recently met for their first annual convention under the new organization of Telephone Association of New England (TANE) at the Mount Washington Hotel, Bretton Woods, with 200 members and guests attending. Among the guests were Norman H. McFarlin, assistant administrator of the Rural Electrification Administration, Washington, D. C., and Elbert Wilbert of the Chase Manhattan Bank, New York City.

Eugene A. Van Den Kerckhoven, presiding officer, called the first session to order and welcome was extended by Merrick E. Wheeler, TANE president, followed by greetings from the Telephone Associations of Maine, New Hampshire and Vermont.

The opening-session speaker, Percy E. Thompson, Independent company relations supervisor-Maine, discussed the importance of a sales program in the Independent industry. The afternoon was devoted to golf, tennis, swimming, and a trip on the Cog Railway Train for the "Top of New England."

Tuesday's program was opened by John R. Coughlin, plant extension engineer of the General Telephone Company, who discussed "Planning for the Future." Gerald Paul, engineer of the Stromberg-Carlson Co., discussed "Equipment in the Future." This was followed by a message from the Public Utilities Commission, given by Harold Davison, chairman of the New Hampshire Public Utilities Commission.

Accounting, Commercial, Plant-Equipment and Public Relations problems were the topics for the workshops on Tuesday afternoon.

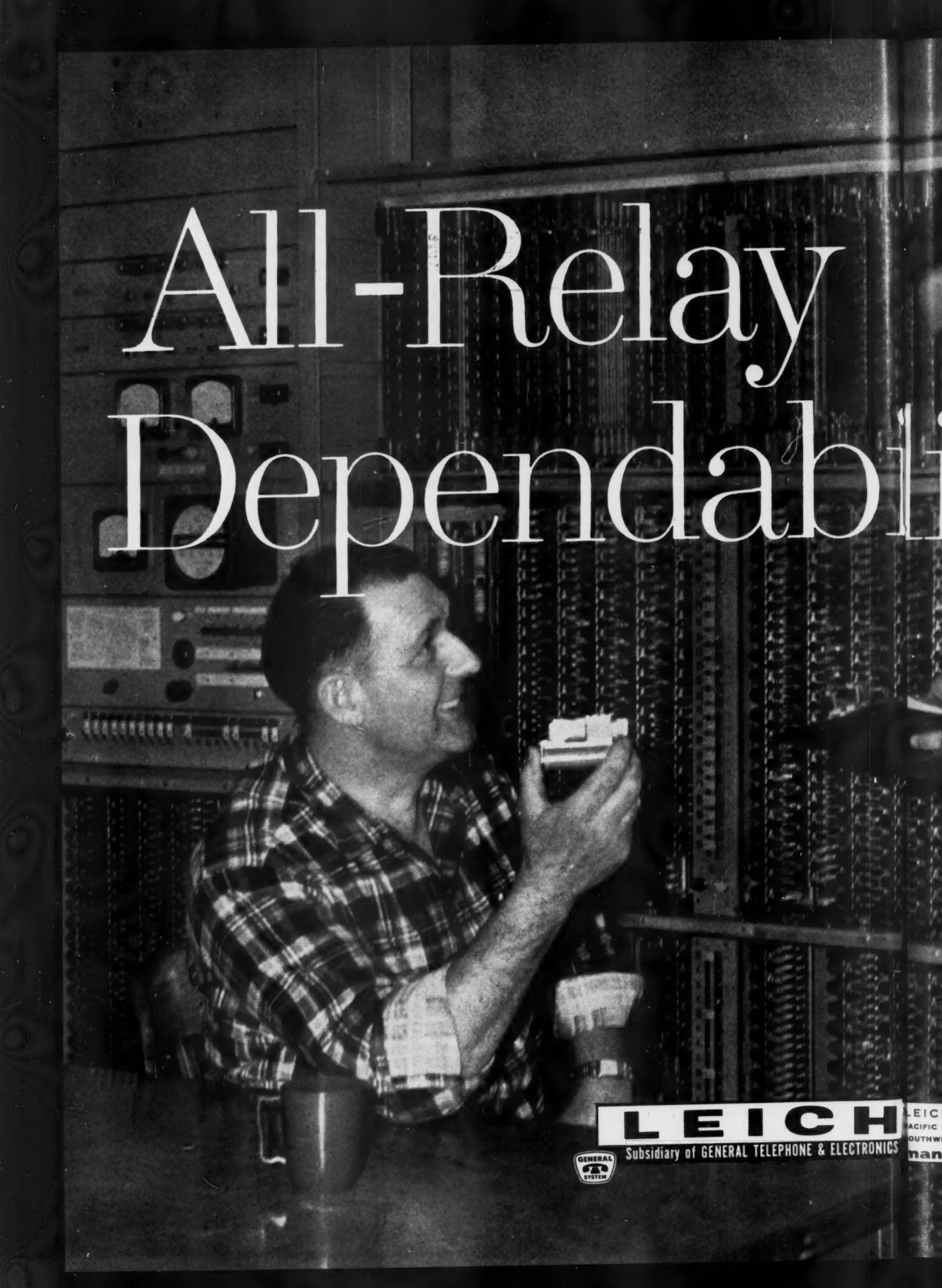


ERSKINE N. WHITE, pres., New England Tel. & Tel. Co., was principal speaker at New England convention.

Wednesday morning, the third and final session, was opened by Mr. Wheeler with the announcement of the new TANE officers, as follows: Merrick E. Wheeler, president; John W. Connor, vice president; and Gardner Hopwood, secretary-treasurer.

Erskine N. White, president of the New England Telephone & Telegraph Co., with his subject of "Managing an Enterprise in These Changing Times," dealt with the facts of in-

Operating managers from five of the six New England states were photographed at recent convention of the Telephone Association of New England. Shown are (l to r): GEORGE TWOMBLY, Standish (Me.) Tel. Co.; GARDNER HOPWOOD, Molly's Falls Tel. Co., Marshfield, Vt.; A. J. WHITE, Hopkinton Tel. Co., Contoocook, N. H.; ALSTON D. MUGNIER, Granby (Mass.) Tel. Co.; and PERCY R. SAVAGE, Woodbury (Conn.) Tel. Co.


All-Relay
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LEICH
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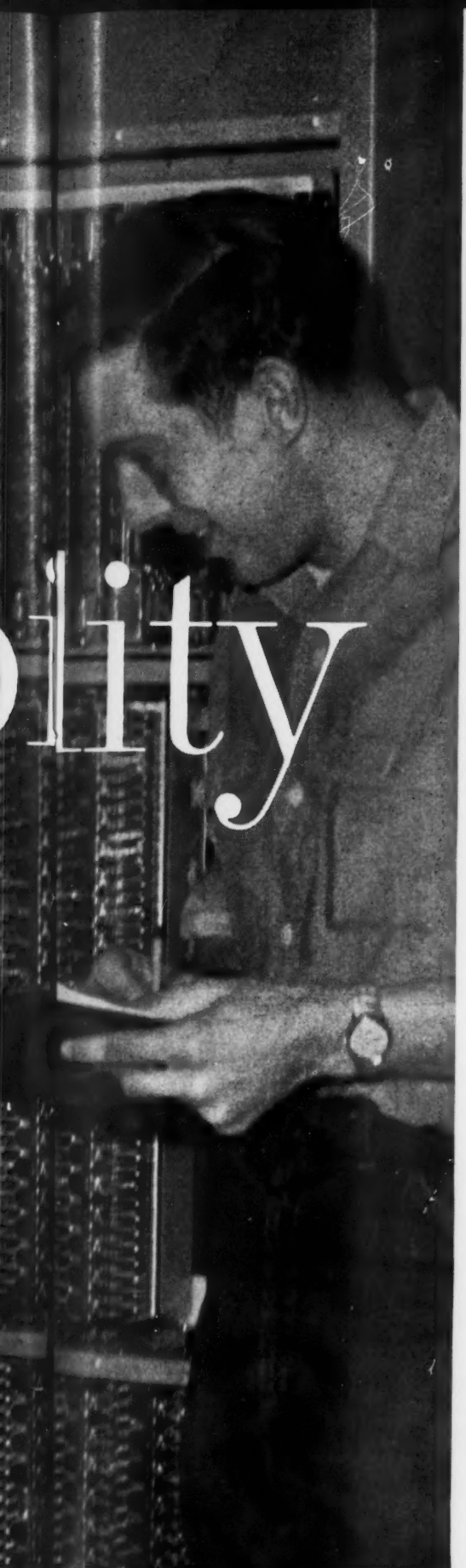
GENERAL SYSTEM



MONEY-SAVING FEATURES OF THE LEICH DIAL SYSTEM

reduces maintenance for over 1,000 exchanges

The owners of 1,000 small and medium size Leich Dial Systems are the best salesmen Leich has. They recommend Leich's all-relay equipment because it cuts their maintenance cost to the bone.

Since the Leich Dial System is all-relay, there's simply less to go wrong. It eliminates mechanical switching mechanisms which are apt to wear or require maintenance or adjustment. Then, too, Leich relays have been tested for millions of operations without failure.

Surveys show that Leich's Dial System requires less upkeep than any other switching equipment. These surveys are based on actual cost-per-station reports made by telephone companies.

A few of the 1,000 exchanges that cut maintenance costs with the Leich Dial System are listed here.

Tuba City, Arizona	Fontanelle, Iowa
Meigs, Georgia	Wilson, Kansas
Potlatch, Idaho	Washington, Kentucky
Woodlawn, Illinois	Freeborn, Minnesota

A Leich sales engineer is at your service. There's no obligation. Write for details.

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PACIFIC COAST: 11401 W. PICO BLVD., LOS ANGELES 64, CAL.
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EAST: 3651 CONNECTICUT AVENUE, YOUNGSTOWN, OHIO
SOUTHEAST: 5126 SOUTH LOIS ST., TAMPA 11, FLORIDA

manufacturers of telephones, switchboards and related apparatus since 1907

creasing population, taxes, expenses, production costs, and how the whole frame of reference has been changed.

The final speaker of the convention was Professor Allen R. Foley, Dartmouth College.

Western Counties Assoc. Meets at London, Ontario

ALEX H. BROWN, manager of the Byron Telephone Company, Byron, Ontario, Canada, was elected president of the Western Counties Independent Telephone Association at its 49th annual conference in the Hotel London, London, Ontario.

Others named to association executive posts were honorary president, C. E. Janes, Watford, and F. R. Taylor, Belmont; first vice-president, Robert Risdon, Thorndale; second vice-president, Roy Sweetman, Essex; executive member, J. S. Capes, Brigden, and Secretary-treasurer, H. J. Schmidt, Baden.

Purpose of the one-day conference was to urge rural companies to modernize, said Brown. Nearly 200 delegates representing about 37 companies or systems located in Western Ontario attended the meeting.

Guest speaker was W. P. Stokesberry, engineer of the Rural Telephone Administration, Washington, D. C.

A resolution endorsing the actions of the Canadian Independent Telephone Association's toll compensation committee was supported by delegates.

Delegates also backed resolutions: (1) Requesting the CITA to continue negotiations in connection with loans to Independent telephone companies; (2) instructing the association executive to continue annual schools for plant employes and secretaries and set up a new training school for supervisory operators.

Officers of the Telephone Association of New England (l to r): Vice Pres., JOHN W. CONNOR, Lewiston, Greene & Monmouth Tel. Co., Winthrop, Me.; Pres., MERRICK E. WHEELER, Springfield (Vt.) Local Tel. Co.; and Sec.-Treas., GARDNER HOPWOOD, Molly's Falls Tel. Co., Marshfield, Vt.

The 49th annual conference of the Western Counties Independent Telephone Association was held at Hotel London, London, Ontario. Discussing the conference are, left to right, V. B. FLYNN, Toronto, chairman of the Ontario Telephone Authority; W. P. STOKESBERRY, Washington, D. C., speaker at the morning session; A. H. BROWN, Byron, who was elected president, and F. R. TAYLOR, Belmont, elected an honorary president.

Missouri Association Holds Three District Meetings

THE MISSOURI Telephone Association recently held District Meetings at Cameron, Macon and Springfield.

Scott Gault of LaPlata, president of the Missouri association, conducted the meetings.

At each morning session J. L. Van Horn, president of the General Telephone Co. of Missouri, gave an informative and interesting talk on "How To Create A Better Business Climate In The Telephone Industry." He emphasized the necessity for telephone people taking a part in politics regardless of party affiliation and urged that telephone employes get to know their elected representatives at all levels.

He also stated telephone people must realize the importance of letting the public know the projects and services they have to offer. He further urged telephone employes to obtain the public's support to eliminate the federal excise tax on telephone service.

R. W. Hedrick, Jr., secretary of the

Fifty-eight Independent telephone companies, 114 exchanges, and 12 manufacturers and suppliers were represented at district meetings held recently by the Missouri Telephone Association at: Cameron, Mo. (top photo); Springfield, Mo. (center photo); and Macon, Mo.

Missouri Telephone Association, discussed regulatory problems involving Independent companies and emphasized the need for compliance with the Missouri Public Service Commission requirements for filing rates, exchange area boundaries and reports. He also discussed the similarity of events and happenings in public affairs of this country in 1959 compared to 100 years ago.

The Cameron and Macon meetings were sponsored by the General Telephone Co. of Missouri. The Western Light & Telephone Co. was host at the Springfield meeting. Fifty-eight Independent companies, 114 exchanges and 12 manufacturers and engineering companies were represented at the meetings. The total attendance was 312 people.

A Traffic and Engineering Conference was held at each meeting. M. S. Bodine, chief engineer of the Capital City Telephone Co., Jefferson City, spoke on the organization of a State Transmission Communications Improvement Committee and its purposes. He announced the State Independent Company Committee would meet with the Bell Committee and get the program activated.

H. M. Altepeter, inventory and costs engineer of the Southwestern Bell Telephone Co., spoke on the subject "Electronics, Automation and You," tracing the history of the use of electricity and mechanical work methods. He discussed the telephone

industry of the future and the devices which will communicate not only in words but also by interchange of data. He also described some of the new innovations in home appliances and transportation and the effects they will have on society and economics. His talk was accompanied by demonstrations of the equipment used in electronic machines and equipment.

The Traffic Conference was conducted by George Thomas of the Southwestern Bell Traffic Department assisted by a panel of chief operators with audience participation. The following subjects were discussed: Changes in traffic operating practices; the mark sense toll ticket; traffic contacts; toll circuit engineering; and community dial office services.

More than 70 people attended each joint Traffic-Engineering Conference.

The Missouri Telephone Association District Meeting Committee included the following members: George A. Hearne, Kansas City, chairman; C. W. Chastain, Princeton; and D. Coombes, St. Louis.

Alaska Association Holds 9th Convention: 100 Attend 3-Day Meeting at Anchorage

THE ALASKA Telephone Association's ninth annual convention, held recently in Anchorage, marked the 10th year of the founding of the organization and attracted members, associate members, guests and friends from all over Alaska, Canada and the "South 48." Approximately 100 persons registered to take part in various portions of the program.

The evening previous to the opening session, President Mr. H. R. Zinns and Mrs. Zinns hosted a buffet supper which afforded the conventioneers an opportunity to renew old acquaintances and greet new friends.

The principal theme of the convention, at both the general sessions and executive sessions, was primarily devoted to two subjects: Public Utility Commissions, and toll settlement agreements.

President H. R. Zinns opened the first General Session with an address of welcome and introductions of members and guests. The Rev. David H. Blackburn of the Anchor Park Methodist Church delivered an inspiring invocation and George C. Shannon, city manager of the City of Anchorage, gave the opening address.

Myron Bakst, project manager of the Federal Electric Corp., brought the assemblage up to date in his speech "White Alice and Federal Electric." Bakst's talk refreshed the memories of the members on various aspects of the White Alice System, gave a resume of some of the problems and accomplishments and revealed new phases of the operation.

Lt. Colonel Gordon D. Gray, Deputy Commander of the U. S. Army Alaska Communication System, in his talk on "ACS-1959," prefaced his address with remarks on the astronomical growth of long distance usage in Alaska during 1958-1959, as some communities have had increases amounting to 13% to 378%.

James Strickland, carrier engineer for the Automatic Electric Sales Corp., presented an address on "Telephone Carrier and Equipment and Technique," and A. A. Baird, district manager, Western Union Telegraph Co., presented the convention group a complete report on "Western Union" which pointed up the excellent accomplishments of the "Grand Old Lady" during the past year.

The president of the Independent Telephone Pioneer Association's "Last Frontier Chapter," B. F. Robie, gave a resume of the organization's activities for the past year, and described the program for giving aid to children with hearing difficulties. David Finn of the Gustav Hirsch Organization Inc. received "The Telephone Man of the Year in Alaska" award.

Guest and keynote speaker of the Alaska Telephone Association was A. J. Barran, president of General Telephone Co. of the Northwest, Spokane, Wash., who discussed toll settlements.

The annual banquet was held in the Chart Room of the Westward Hotel with Claire O. Banks of the Anchorage Chamber of Commerce as toastmaster. A. J. Barran gave the main address, entitled "The Eternal Triangle."

Closed executive sessions of the Alaska Telephone Association were devoted to two subjects, the formation of a Public Utility Commission in Alaska, and the part the operating telephone companies could play in the formation of the commission and assisting the forthcoming legislature. Considerable round table discussion was centered on the present toll settlements with the Alaska Communications System and the membership voted to have a state-wide toll study made of each company by the Gustav Hirsch Organization, Inc.

Max Clements, manager of the Matanuska Telephone Association, Palmer was elected to fill the unexpired term of vice president. Other officers are: President, H. R. Zinns, Anchorage; Secretary, Mrs. Martha P. Cushing, Sitka. Directors are: Owen E. Meals, Valdez; Lester L. Glascoe, Fairbanks; Mrs. Verna Carrigan, Juneau; and Richard J. Cushing, Sitka.

It was voted to hold the 1960 meeting in Sitka at a date to be announced later.

W. Virginia Independents Hold 8th Annual Meeting

OPENING with a get-together hospitality hour for all conventioners and closing with a banquet and entertainment on the final day of the meeting, 154 members and guests of The West Virginia Telephone Association met for their eighth annual convention at Blackwater Lodge, located in Davis, W. Va., in the heart of one of the beauty spots of the state and nation.

The luncheon featured an address by David A. Hamil, administrator for R.E.A., whose talk outlined the "Purposes and Practices of R.E.A."

President Robert W. Ingle presided at the business sessions, and one of the highlights was an illustrated

Officers and Directors of The West Virginia Telephone Association for 1959-60. 1st row (l. to r.): D. D. McCARDLE; D. C. DODRILL, 1st vice president; JAMES C. CRANE, president; MURRILL COLBURN, 2nd vice president; JOHN L. FORDYCE. 2nd row: LEROY N. DARLING, secretary-treasurer; W. MURRAY SMITH; ROBERT W. INGLE; and NYLE SCHOLL.

talk on "Mark Sensing Toll Tickets," by Charles Jordin of the Chesapeake & Potomac Telephone Co. The golf party at the Elkins Country Club was well attended and competition for the prize awards was keen. The ladies were given a bus tour of the scenic area during the golf party with all concerned returning in time for the bingo game and dance.

The new officers and directors were introduced at the banquet by the incoming president, James C. Crane. They are: D. D. McCardle; D. C. Dodrill, 1st vice president; Murrill Colburn, 2nd vice president; John L. Fordyce; LeRoy N. Darling, secretary-treasurer; W. Murray Smith; Robert W. Ingle; and Nyle Scholl.

"Press Relations—Boon or Bane?"

(Continued from page 43)

service is rarely the victim of poor press relations. No newsman, no matter how naive, inexperienced or just plain ornery, is likely to write adversely about a company which is sincerely and consistently applying its major effort toward good public service.

For one thing, public sentiment accrues readily to the favor of such a company and undue criticism by the press is quickly recognized as stemming from personal and arbitrary motives, and is thus discredited.

So critical is the factor of good service, indeed, that no press relations program can even begin to hope for success without its having come first.

The Fourth Estate, as Edmund Burke pointed out, is certainly a power — but one which can, if we give it the chance, work wonders for better communities throughout the land — and better public utilities to serve them.

Human Interest Stories

THERE ARE, in the operations of almost any telephone company, enough lively human interest stories to keep a newspaper regularly supplied, and even eager to print them.

It is little wonder, then, that newsmen condemn us for supplying them only such material as *we* believe should be published — a rash of stories on personnel promotions which are of little general interest, or narrations of new plant installations with little or no translation in terms of what new or additional service they will provide for the community.

If the utility man asks the newsman to understand his problems — it is just as important that we understand the newsman's problems. Utilities in general take themselves too seriously for the newsman's taste. We are not very likely to share his ideas of humor, or of human interest. Almost always, this condition stems from the utility man's reluctance to entrust the accuracy involved in his story to what he may deem the whimsical touch of the newsman.

Yet, in the picture somewhere is a common ground where good utility men and good newsmen can get together. Such an area of understanding may well be discovered by the utility man who takes the trouble to seek out the right newsman and earn his confidence.

Certainly the time to do this is not in immediate advance of a major rate filing. If you haven't gained the newsman's trust well in advance of such a filing, don't try this procedure just before it, for your motives will justifiably be suspect. Better to start a press relations program at the low ebb following a rate case, and use it as a vehicle to project service improvements which may be forthcoming. Education of the newsman on the rate making philosophies of the state regulatory bodies should be a component of every press relations program.

If newsmen have some valid criticisms of utilities, one of the most valid protests of the utility to the press could well be in the latter's failure to understand the position of the utility in the rate-making process. The "monopoly" label adheres too fast to the utility in the journalist's catalog, and not enough has been done to loosen it.

"Duty To The Community"

ONLY IN THE recent past of journalism did simple "objectivity" become a paramount factor in the newsman's trade language. Some of them even now have not caught up with it. But to the metropolitan journalist — and a scattered few among the extra-urban breed — mere objectivity is now known not be be enough.

This trend of the newsman's awareness to the needs of his own profession brooks good for business and industry, and especially for the complex structure of the regulated utility,

for it is a sign of a new consciousness of duty to the community.

The good newsman today is becoming more alert to his own responsibility to provide an honest service to his reader. No longer is the philosophy of expediency his working tool. Thus, the utility man whose aims wear a similar garb has no need to fear or lament the newsman — and vice versa.

One of the striking things I have observed in the transition from newsman to utility man is the unique pride of craftsmanship common to both professions. Similarly, there is a common thread of perverseness, probably stemming from this craft-pride. Character — and "characters" — are common to both.

Mutual tolerance, shared objectives and the same conscience toward public service can form substantial spans to bridge those small gaps of conflict between the two.

Sheer mechanics are important in the process of establishing favorable press relations, almost to a point of incongruity to the total problem. Most newspapers today welcome the "press release" only if it is as well prepared as the newspaper itself would make it. The release is especially acceptable when it graphically interprets a difficult technical point.

On the other hand, let it portray the technical points in a manner not readily understandable to the layman, and the release becomes a liability and only helps close the door to future releases.

"Phoning in" a story is a practice to be avoided except in cases of extreme emergency, when the time consumed by preparing it in written form would throw it beyond deadline time.

A sure way to attract the interest if not the wholehearted respect of a newsman is to prepare your news matter in professional form.

"President John Jones, of the XYZ Telephone Co., today announced . . ." is the manner in which all too many of our news releases start their flight into editorial oblivion.

The utility man who takes the trouble to learn, either from a friendly newsman or a good textbook, the proper way to lay out and write a news story, will almost automatically have passed one of his most formidable hurdles on the route to good press relations.

Newsmen frequently complain that utilities, especially, are likely to assume ridiculous postures in submitting information for publication.

"They tell us when they want a story published without the least thought as to when we may be able to publish it," a newsman may well say. "And they object if it is changed or shortened, even if its over-all tone is improved."

Respect of the editorial prerogatives is high on the list of prerequisites to good newspaper relationships.

The newspaper publishes the news as it sees it. There is latitude, even when dealing with straight statements of fact, for this.

The company spokesman who demands to review a reporter's copy before publication is guilty of an unpardonable sin in the newsman's code, but a sincere offer to look it over to ensure accuracy is acceptable. This is only a matter of garden variety professional courtesy — but a matter which may to the utility man be obscure.

In the same vein, remember that the newsman, by dint of deadlines and the other exigencies of publishing, is entitled to a certain privileged entre to your business — he'll rarely call you except when he's in a hurry — so give him prompt attention. Only your own guilty conscience — if it is such — will cause him to interpret such courtesy as solicitude.

"The Right To Question and Criticize"

THERE IS NO "wonderland" of perfect press relationships. Even when the rapport between utility and newsman is well nigh perfect, it is only a marriage of convenience. The press must — and inevitably will — reserve the right to question and to criticize. It is when the crisis comes — and in how intelligent the criticism and how valid the response — that the true worth of good press relationships reposes.

In the climate that governs both the press and the utility today, arbitrary, unrelenting and unjust hostility of a newspaper toward a utility is a rarity. No longer is it fashionable — or profitable — for the press to "fight the vested interests" merely for the sake of the fight. The weight of evidence in those notable cases where hostilities prevail is likely upon close examination to be heavily in favor of the press.

In the exceptional case, there is only one valid weapon, and that is the weapon of excellent public service. This is even a more powerful estate than that to which Edmund Burke pointed across the Thames in Fleet Street. — *William F. Fowler.*

Western Ark. Tel. Completes Russellville, Ark. Cutover

RUSSELLVILLE, Arkansas, and its 9,500 residents are enjoying the new dial telephone system placed in service recently by Western Arkansas Telephone Co.

The K-60 Crossbar equipment is contained in the attractive brick general office building completed during the lifetime of S. A. (Gus) Lane, former president of the company and member of the USITA board of directors. The installation of the 2,400 lines of equipment with 4,000 terminals and 14 position toll board marked another milestone in the company's goal of 100% dial service which it will attain at the end of 1960 with the conversion of the Atkins, Scranton and Paris exchanges.

R. A. (Bob) Lane, energetic young president of the company, was interviewed over Station KXRJ in an hour long pre-conversion broadcast. He reviewed the growth of the company from its organization in 1930 with some 2,780 stations to its approximately 10,000 telephones located in 15 exchanges in the heart of the Arkansas River valley.

Lane received a Certificate of Quality Service presented by Everett C. Weitzell, deputy assistant administrator of REA, Washington, D. C., who also made the first long distance call. Mayor James Newton of Russellville placed the first local call to the editor of the *Courier Democrat.*

Presenting now the

New and Improved Murphy Silent Buzzer

For 2-man testing to identify cable pairs in new or working cables — without interference — even on busy lines Models SBT-2 and SBR-2 (all sets shipped after June 1, 1959)

SBT-2

SBR-2

- Eliminates monitoring for busy lines
- Faster testing to identify pairs
- Super-hetrodyne circuit, battery powered
- Never disturbs any line
- Loud clear two-tone signal to splicer and helper
- Compact and light, 3 x 4 x 5 inches

1. Increased power for the Transmitter for the longest loaded cables — without interference.
2. Increased Receiver sensitivity — now 7 transistors — for efficient pick-up with the capacity probe.
3. Smoother and less critical volume control, no overloading of early stages on shorter cable runs.
4. Spare probe tip holder moved to the top of each case instead of atttaching to the cord plugs.
5. Improved capacity probe, 10 times greater pick-up, can be "hooked" onto proper pair with one hand and pair moved and held away from other pairs for positive identification.
6. Two slide switches have been replaced by a single rotary switch, for simpler and more dependable operation.
7. Instructions included for a simple connection on the Receiver to convert it to a source of low frequency tone — so that the splicer can pick out a spare pair for a talking pair and the helper can locate it in the central office with a monitoring set.
8. A convenient and durable carrying case is now available for carrying the silent buzzer, all cords, batteries, the Field Test Board and the Speed Tester for maximum protection during storage and transportation.
9. In use on a busy line, neither the splicer nor helper can hear any part of the subscriber's conversation.
10. Transmitter uses only 5 ma from a 4½ V battery. Receiver uses only 6 ma from a 4½ V battery, or a total for both of only 49.5 milliwatts — from low cost batteries.

Net price $194.00 per pair — f.o.b. Houston, Texas. Shipping schedule — 90 days. Write for additional information on this and other telephone test equipment manu'actured by

ELECTRONIC RESEARCH DEVELOPMENT MANUFACTURE

MURPHY ENGINEERING LABORATORIES, Inc.

4419 TULSA HOUSTON 24, TEX.

How can you save money on pole installation?

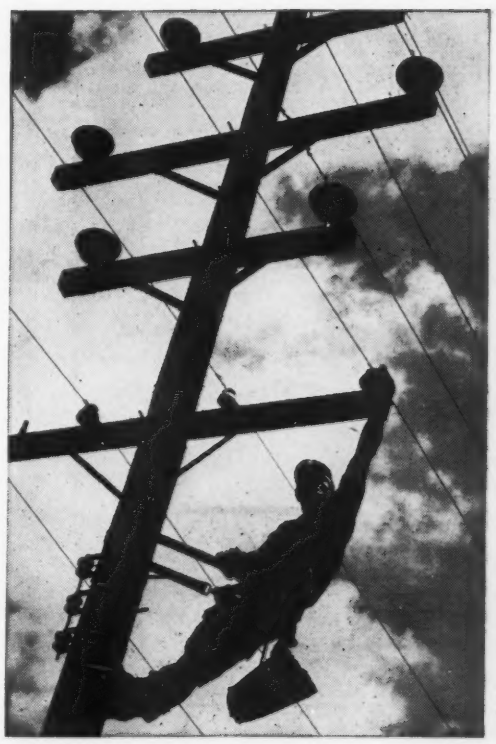
String your lines with USS Tiger Brand Amertel 195.

When you string your rural telephone lines with Tiger Brand Amertel 195—the bonus telephone wire that is engineered for spans up to 700 feet—you cut down on the number of poles needed. With fewer poles, your installation cost per mile of line will drop substantially.

There are other ways this superior quality telephone wire can improve your service, reduce your maintenance and installation costs:

- Amertel 195 stands up under severe weather conditions, reducing service interruptions to a minimum.
- Telephone lines can easily be strung over rivers, gullies or other areas requiring spans of unusual length.
- The low resistivity of this fine wire results in improved voice transmission even at relatively high frequencies.

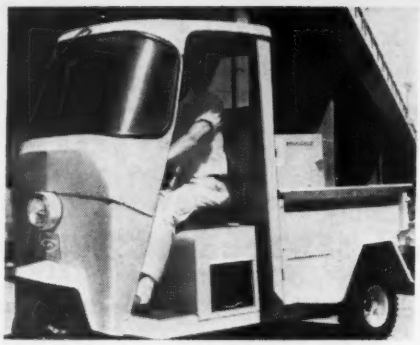
For more information on Tiger Brand Amertel 195, send for our free booklet. Write to American Steel & Wire, Dept. 9181, Rockefeller Bldg., Cleveland 13, Ohio. *USS and Tiger Brand are registered trademarks*



American Steel & Wire Division of United States Steel

Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributors
Tennessee Coal & Iron Division, Fairfield, Ala., Southern Distributors • United States Steel Export Company, Distributors Abroad

Cushman Electric Truckster.



Cushman 780 Truckster.

NEW PRODUCTS' SHOWCASE

By DICK REYNOLDS

New Trucksters

CUSHMAN Motors has announced the new 1960 gasoline and electric powered Trucksters.

Improvements in the 780 Truckster include a new formed channel, automotive style chassis; a longer, stronger pick-up box; a wide front shield for driver protection; top-hinged clutch and brake pedals; and a rubber mount for the engine. An optional fiber glass and steel cab has been improved with a wrap-around, full-vision windshield. Other features include constant mesh transmission; hydraulic internal expanding brakes on all three wheels; independently operated parking brakes; heavy duty, automotive type wheel rims; and sealed beam headlight.

Improvements in the Electric Truckster for 1960 include a heavier motor and a new positive drive that takes the machine, fully loaded, up steep ramps or grades. It is powered with a choice of lead-acid or Edison type batteries. A fiber glass cab is available as optional equipment.

Also new for 1960 is a personnel seat and stake rack kit with which the Electric Truckster can be equipped to carry a total of five passengers plus luggage or supplies. *NP* 321.

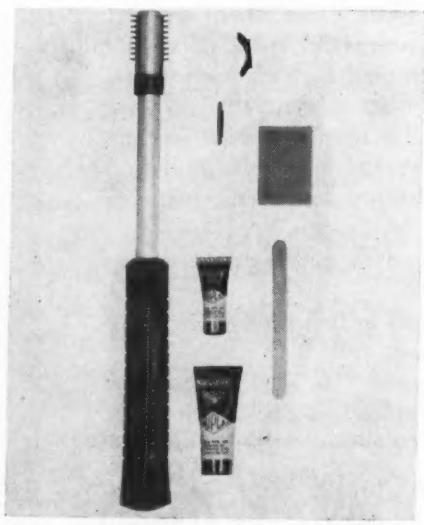
Paper Tapes Brochure

PERMACEL has prepared a new brochure on its complete line of pressure-sensitive paper tapes. The brochure details the basic construction and physical properties of the tapes. In addition, there is a listing of paper tape applications such as masking, packaging, sealing, protecting, holding, reinforcing and splicing which point out specific uses in various industries for these tapes.

For your copy of the new paper tape brochure *Check New Product* 322.

Universal Hammer Handle

A NEW hammer handle from New Plastic Corp. contains over 1½ million full length parallel glass fibers to give it maximum strength.



The grip is made of an oil resistant plastic and styled for good balance and comfort. An epoxy system called "Nuplabond" permanently locks the handle to the hammer head.

A self-aligning ferrule adjusts itself to any eye opening and positions the handle during the cure cycle. *Check NP* 323.

Grid Dip Meter

ALLIED Radio Corp. has announced the release of the Knight-Kit Model G-30 Grid Dip Meter Kit. A valuable instrument for radio amateurs, experimenters, and communications equipment installers, its uses include such applications as adjusting wave traps, pruning antennas to proper length, detecting parasitic oscillations in transmitters, and modulation monitoring. A crystal may be inserted to permit use as a frequency standard.

Among the features of the G-30 are wide frequency coverage from 1.5 to 300 megacycles in 6 overlapping ranges, an adjustable hairline to permit precise calibration on any portion of a range, and plug-in coils color-keyed to the dial for convenient range selection. The coil in use is held securely by a molded socket, specially selected for its ability to withstand continual use. Since oscillator output is substantially linear, the G-30 may be tuned over wide ranges without any need for readjusting the gain control. *Check NP* 324.

"Polerbore" Auger

NEWLY designed and thoroughly tested, the "PolerBore" Auger by Trainer Associates, Inc. is most effi-

cient in digging rock. The special cutting tooth setting aids in boulder type digging. The auger digs through frost or frozen ground. The cutting teeth make digging in frozen soil easy, save wear on digging machine itself. Special cutting teeth now are being proven on hard shale, soft rock, hardpan and like terrain, for boring and drilling through sand-

stone, hard rocks concrete, coral, marl, and frost; for general purpose digging through clay, earth, and gravel; for rough uneven digging through stony ground, rock knobs, and shale.

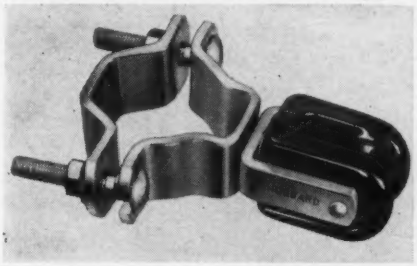
The auger also features a true-fitting, multi-size chuck for close, tight fit on the driving bar that eliminates shims, waggles, or damage to the driving bar. The two-way chuck allows close, correct fit on more than one standard-size driving bar to eliminate the need for special adapters. *Check NP* 325.

Wireholder

HUBBARD & Company has announced development of an easy-to-install wireholder No. 1695, for use on service entrance masts from 1¼ to 2½″ nominal pipe size.

Bolts do not have to be removed when attaching the bracket to the pipe. By loosening the nuts, the head of one bolt may be slipped through a slotted open end. The keeper strap also has a slotted hole to allow play for this movement.

The bracket is then wrapped

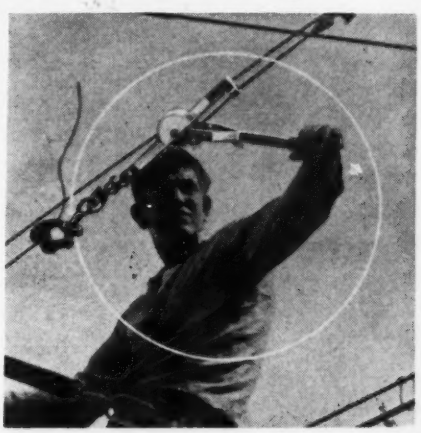


around the pipe and secured. A shoulder on the carriage bolt holds it in place during fastening. *NP* 326.

Improved Power-Pull

AN IMPROVED 1½ ton capacity Power-Pull manual hoist-puller is now in production at American Gage & Manufacturing Co. The new model with 3/16″ pre-formed aircraft cable weighs 7½ lbs. but enables one man to lift, lower, or move over 3000 lbs. Each unit is tested to 50% overload.

A new feature permits complete cable replacement in the field in minutes with only a hex socket wrench needed to remove a set screw. The new method of attaching the cable



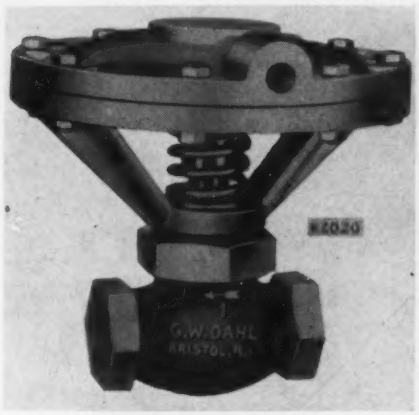
by swaged sleeve and tapered 9/32″ hole has been tested to equal in strength other parts of the device. All stress points are high tensile strength manganese bronze, frames are steel. The 3/4 ton and 1 ton Power-Pull models have been redesigned to include the cable replacement feature.

Attachments and adapters are available for special uses on specific jobs. Wire grips adapt Power-Pull for stringing line. Among many other uses are included installation of strain carriers and transformers, hoisting of work platforms, and handling reels. *Check NP* 327.

Control Valves

THE GEORGE W. Dahl Co., Inc. has announced that the 2020, 2030 and 2031 series of "Bantam" valves are now standard items in the Dahl line.

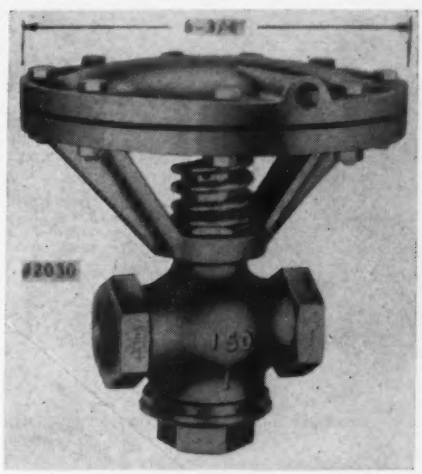
The 2020 series has a cast globe body with 8, 15, or 50 square-inch



2020 Series Control Valves.

reverse or direct acting operators. Rated for 150 psi steam and 300 psi liquids and gases, this bronze body series has three different plug trims for on-off, quick-opening or moderate throttling control. It has a maximum Cv of 40.0, lift 5/8″, seat areas up to 3.1 sq. in. and connections ¼″ to 2″ N.P.T.

The 2030 series is similar to the 2020 series except for its reverse-acting plug which is held closed by spring compression. Maximum Cv,



2030 Series Control Valves.

lift, seat areas, and connections are the same as the 2020 series.

The 2031 series is a three-way valve for diverting, blending or selecting. It has a cast bronze body and

operators with 8, 15, or 50 square inch diaphragms. It is rated for 150

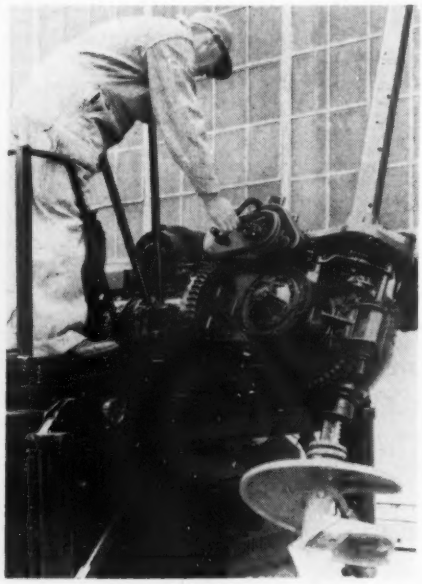
2031 Series Control Valves.

psi steam and 300 psi liquids and gases. Connections range from ½" to 2" N.P.T.

For complete information on all three types *Check New Product* 328.

Power-Leveling Mechanism

THE UTILITY Division of Highway Trailer Co. has introduced a new



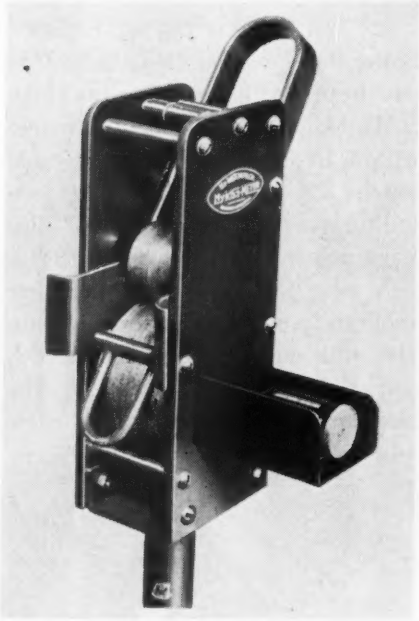
power-leveling mechanism, now available on two models of its earth-boring machines.

The device is optional equipment on Highway's Model HDA and HDAMS earth-borers. With dual power-leveling control located at the top, a turn of the mechanism puts the rack bar and derrick in the exact position desired.

This feature permits rapid- leveling where necessary on guard rail and line construction jobs. It also permits fast maneuvering of machine fore and aft, left to right. *Check NP* 329.

Cable Measuring Meter

ACCURATE measuring of heavy, large-size cable now can be achieved with the improved Hykon Cable Meter. The Model HCM has a direct-drive veeder-root counter, calibrated in feet and inches for better reading accuracy. The meter measures up to 1000 feet and has instant zero-reset.



Proper spring tension is maintained on the measured material to prevent slippage and "shrinkage," with a convenient release handle to permit free insertion and removal of the cable.

The Model HCM is 12" high x 7" deep x 7½" wide. Shipping weight, 12 lbs. The bench mount measures 14½" x 10" x 2" high. All parts are finished in green industrial enamel. *Check NP* 330.

Automatic Suspension Scales

W. C. DILLON & Company, Inc. has just introduced a new line of automatic suspension scales.

The Model P has a highly legible 16" diameter dial and is available in the following capacities: 0-250, 0-500, 0-750, 0-1000, 0-2500, 0-5000, 0-7500 and 0-10,000 pounds. Principle of operation is based upon compound levers. The mechanism is fully dampened against vibration or flutter. Safety factor is 5-1 in capacities up to and including 5000 pounds and better than 3-1 in the 7500 and 10,000 pound ranges.

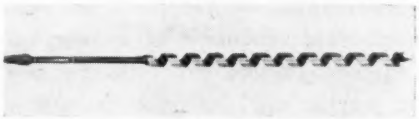
Dillon Model P scales have a net weight of 56 pounds and can be readily carried by the operator to various plant locations where needed. Being temperature compensated, they

are unaffected by the extremes of foundry room heat or the sub-zero of outside storage yards. In addition to hoist or crane applications, they may also be utilized with fork lift trucks, being suspended from a cross-bar on the fork. *Check NP* 331.

Pole-Bor Bit

A NEW wood bit for non-stop boring in telephone and power poles has been developed by the Irwin Auger Bit Co.

Called the 415T Pole-Bor, this new bit is designed to eliminate clogging,



binding and stopping to clear chips, particularly in hard to bore creosoted poles or heavy construction timber. The combination cutting head, twist angle, smooth polished hollows, spur, and side lip guarantee continu-

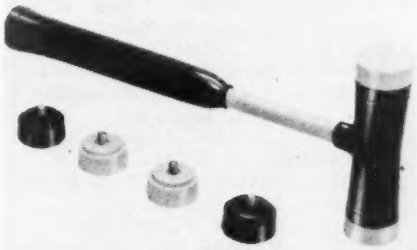
ous chip flow and smoother holes for easier insertion of bolts and pins.

Over-all length of the bit is approximately 18", with 12" twist and 6" shank. *Check NP* 332.

Mechanics' Special Hammer

A NEW hand hammer from New Plastic Corp. assures a controlled impact and eliminates damage to work, by attaching a selected hardness tip for each type job.

The hammer is shot-loaded to increase impact, and has a unidirectional fiberglas handle shaft to eliminate handle breakage.

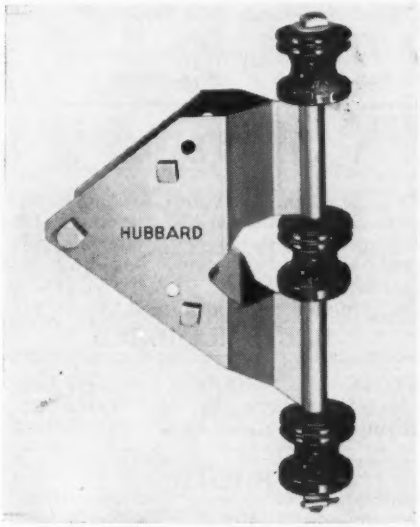


Interchangeable screw-in tips are available in six color-coded hardnesses that permit pounding on glass, clay, wood, ceramics, and soft or hard metals without marking the material. *Check NP* 333.

End-Of-Arm Rack

A SECONDARY rack which is mounted to the end of a cross arm to conserve pole space has been announced by Hubbard & Co.

The Hubbard end-of-arm rack permits the use of a shorter pole than would normally be required for joint construction clearances where secondary services are taken from a rack on the pole.

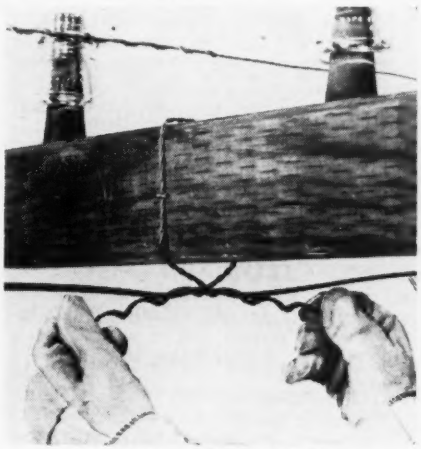


This space saving rack is formed of No. 12 ga. steel and is available for three or four conductors. *NP* 334.

Crossarm Tangent Support

A ONE-PIECE crossarm tangent support has been developed by Preformed Line Products Company to facilitate stringing of one-pair aerial distribution (C-Rural) wire.

The new fitting is utilized ideally under the following conditions: (1) Where pole climbing clearance is required, (2) where ground clearance would be insufficient using conventional methods, (3) where a greater number of wires demand the use of the crossarms instead of the pole.



Preformed crossarm tangent supports are made of stainless steel with neoprene-coated legs which protectively "cradle" the wire, eliminating the need for separate cushioning devices to prevent abrasion. The fittings are immediately available for wire sizes 2 #14 and 2 #12 copper covered steel and 2 #.083 steel. *Check NP* 335.

Space-Maker Telephone

A NEW telephone known as the Space-Maker has been announced by General Telephone Laboratories.

The instrument features a moveable dial and hookswitch for complete position mobility. The dial mounting can be rotated a full 360°, tilted backward 45° and locked into place at any point. The handset cradle swings in a 180° arc and locks into any one of seven different positions. This flexibility allows the installer to mount the telephone to the subscriber's preference.

Space-Maker Telephones utilize standard AE Type 80 telephone components. A standard AE Type 32 ringer box with either straight-line or harmonic ringer may be used with the telephone, as it can be used as an extension, with or without the ringer, by connecting two wires to the main-line instrument. Assemblies are available with special wiring for use with the company's 10-A1 key system.

The instrument is available in black and colors. *Check NP* 336.

NEW PRODUCTS' REPARTMENT **12-1-59**
Telephone Engineer Publishing Corporation
7720 North Sheridan Road, Chicago 26, Illinois
Attn.: Dick Reynolds

Please send me additional information concerning the following New Products.

NP 321..... NP 322..... NP 323..... NP 324..... NP 325.....
NP 326..... NP 327..... NP 328..... NP 329..... NP 330.....
NP 331..... NP 332..... NP 333..... NP 334 ..... NP 335.....
NP 336 .....

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ADDRESS .....
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MANAGER for rapidly expanding commercial (cooperative) Rural Telephone System located at Harlan, Iowa. Must have administrative ability to achieve and maintain efficient operations and develop sound expansion programs. Ability to hire, train and direct personnel in all phases of telephone operations. Technical, plant and commercial knowledge and experience desired. Permanent position carrying substantial opportunity for qualified person. Replies confidential. Applications must be in by December 15, 1959. Please write: Wendell Lytle, Pres. Rt. 1, Harlan, Iowa.

CENTRAL OFFICE EQUIPMENT REPAIRMAN with some cable experience. Western Electric TPS and XY TPL equipment. Immediate opening in West Texas. Send complete resume to Box 87, c/o TE&M.

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HELP WANTED — Southeastern Telephone Company located in North Florida. Wanted: Journeymen, Cable Splicers and Station Installers. This fast growing telephone company has 35,000 stations, located in towns near Gulf Coast. Reply to District Plant Manager, P. O. Box 1080, Tallahassee, Florida.

HELP WANTED

EXPERIENCED C.O.E. INSTALLER: Dial and manual equipment. Must be familiar with different types of equipment. In your reply please state age, experience, references, types of equipment worked on, salary and when available. All replies confidential. Write Box 89, c/o TE&M.

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(Continued from page 79)

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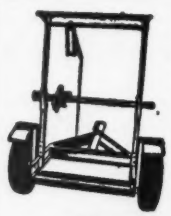

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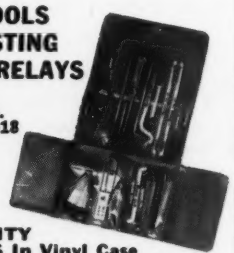

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BD-110 (Signal Corps version of #12) with 15 univ. cd. ckts. (CB & LB) — 3 Positions
Many other Military types, also.
Kellogg CO manual boards, like new #—1600
PBX manual boards, like new K-100
Cordless, CB & LB, new
5 x 12 CB, new #1007CCX $150.00

DIAL PBX

North, all relay, PX-80
80 line (50 equipped) 7 link (6 equipped)
(complete with power supply, 48V)
12" x 51" x 81" overall, no provision for trunks.
A.E., Strowger switches, new, repeaters, relays.
(SAVE OVER ONE-HALF)

REPEATING COILS

(new)

W.E. 77A (substitute) C-161	$ 3.50
76A (two coils) 1:1 rat.	5.00
75A (better matched)	6.00
91A (double coil)	10.00
93A, B, F, G	12.50
70A ring-thru	5.00
27A non-ring-thru	3.00
25A two of above	5.00
94E non-ring-thru	2.50
94G	3.50
94H	5.00
101A	5.00
120C, CS, E, ES	5.00
Retard coils, 149E	3.00
Kellogg—New	
20A Repeating	$2.00
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FUSES, 35A, B, C, H, R, S. ..New, 10¢
($9 hund., $80 thousand) 75,000 in stock (standard W.E. pack, 10 or 50)

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— Dry Line Type —
TP 14 (portable) 2-4 wire
12-18 DB gain (resp.)
—intermediate or end
Ring By-Passed
115-240 VAC—12 VDC
Mfg. by Federal, etc.
Moisture-proof wood case—removable for 19" rack mounting
11"x18"x8"—46 lbs.
$500.00 Value—New—$125.00
Like New—$100.00
Also W.E. 3 — Circuit Type — New

TEST EQUIPMENT

Plugs—Patchcords, W. E.
Jacks—Mountings
Complete Toll Test Boards

All New Material (unless otherwise noted) priced F.O.B. Los Angeles
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North Names W. H. Graham Executive Vice President

LAST MONTH the election of William H. Graham as executive vice president of North Electric Co., Galion, Ohio, was announced by William Tucker, president of the Ohio communications and electronic equipment manufacturer.

Graham, age 42, is a native of Dayton, Ohio. Upon graduation from

W. H. GRAHAM

the University of Dayton, he joined National Cash Register Co., where he spent 10 years in various manufacturing-management positions. From 1947 to 1955, Graham was a manufacturing executive with Crosley Division, Avco Manufacturing Corp., Cincinnati, Ohio, with responsibility for three large plants.

From March, 1955, to early this year, Graham was executive vice president and chief executive officer of the Magnavox Co. of Tennessee, a subsidiary of the Magnavox Co.

In February, 1959, Graham resigned to become president of Metals Engineering Corp., Greenville, Tenn., manufacturers of tools, dies, and metal stamping fixtures.

Graham is a member of the board of trustees of Tusculum College, a director of the Tennessee Manufacturers Association, director of the Greeneville Chamber of Commerce, member of the Finance Committee of the Boy Scouts of America, a Shriner, and is active in the Presbyterian Church.

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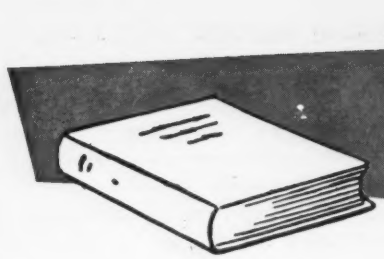


THE BACK OF THE BOOK

By JOHN G. REYNOLDS

"Coin Collecting On A Mule"

ABOUT once a year, *Lloyd Reynolds* of *Pacific Tel. & Tel.* eats dinner standing up! According to Pacific Tel.'s magazine "PTM," Lloyd is the coin collector for the Modesto district, an area extending north and south from Modesto to Madera, and east and west from Los Banos to Yosemite, and two public telephones on his route are collected only once a year. These are located high in the Sierra, at the upper end of Yosemite Valley, on the Vernal and Nevada Falls "mule back" trail.

Lloyd travels about 3,000 miles a month in the district, and nearly all of it is in one of those comfortable green cars with the Bell emblems on the side. But for the annual trip to the Yosemite high country public phones, he trades the car for a *mule!*

This year, at the Yosemite Park and Curry Company stables, at Camp 12, he transferred the metal coin receptacles to the saddlebags and just like they do in the Westerns, swung astride an "oatburner," for the four-hour round trip to the top of Nevada Falls and back.

"The trail," Lloyd said, "at first, winds along the Merced River on the Valley floor, and prettier country you've never seen. Then we start climbing. It's not so bad going up. Took me a while to get acquainted with old 'Sioux City Sue.' She doesn't exactly have coil springs, but at least she's sure-footed, and she has to be on that trail."

We understand when "Sioux City Sue" heads for the barn, she really goes, and it's down hill all the way. On a recent trip she made it down in a little over one stiff-legged, jolting hour, with the coins in the saddlebags jingling a merry tune.

"I was glad to climb into that green car and head for the valley," Lloyd said. "At home that night just before dinner, my wife, Bonnie, asked, 'How was the trip?' "

"Wonderful," I replied, "but if it's all the same to you, would you set my plate on the mantle? I prefer to stand."

"Just Us Linemen"

THE CURRENT issue of "Long Lines" magazine reports the case of a young Mr. and Mrs. who recently played a small but important role in a real life drama.

They were crossing the country in their car and had gotten as far as Texas when the incident occurred. The highway on which they travelled ran through vast stretches of open prairie and it was here, on the side of the road, that they came upon an all-too-familiar pose.

Two men had their hands upraised, "reaching for the sky" in the approved manner of Westerns, while a third stood in the posture of the bad man, steel glinting from his hip.

Being good citizens, the young couple hurried to the nearest phone and notified the police. They then continued their journey.

Back on the roadside, three telephone men were greatly surprised to be interviewed by the police.

The two linemen, with their hands in the air, were busy stretching a wire. The foreman was holding a wrench.

"No," they said when questioned, and their surprise was genuine, "they hadn't seen any holdup."

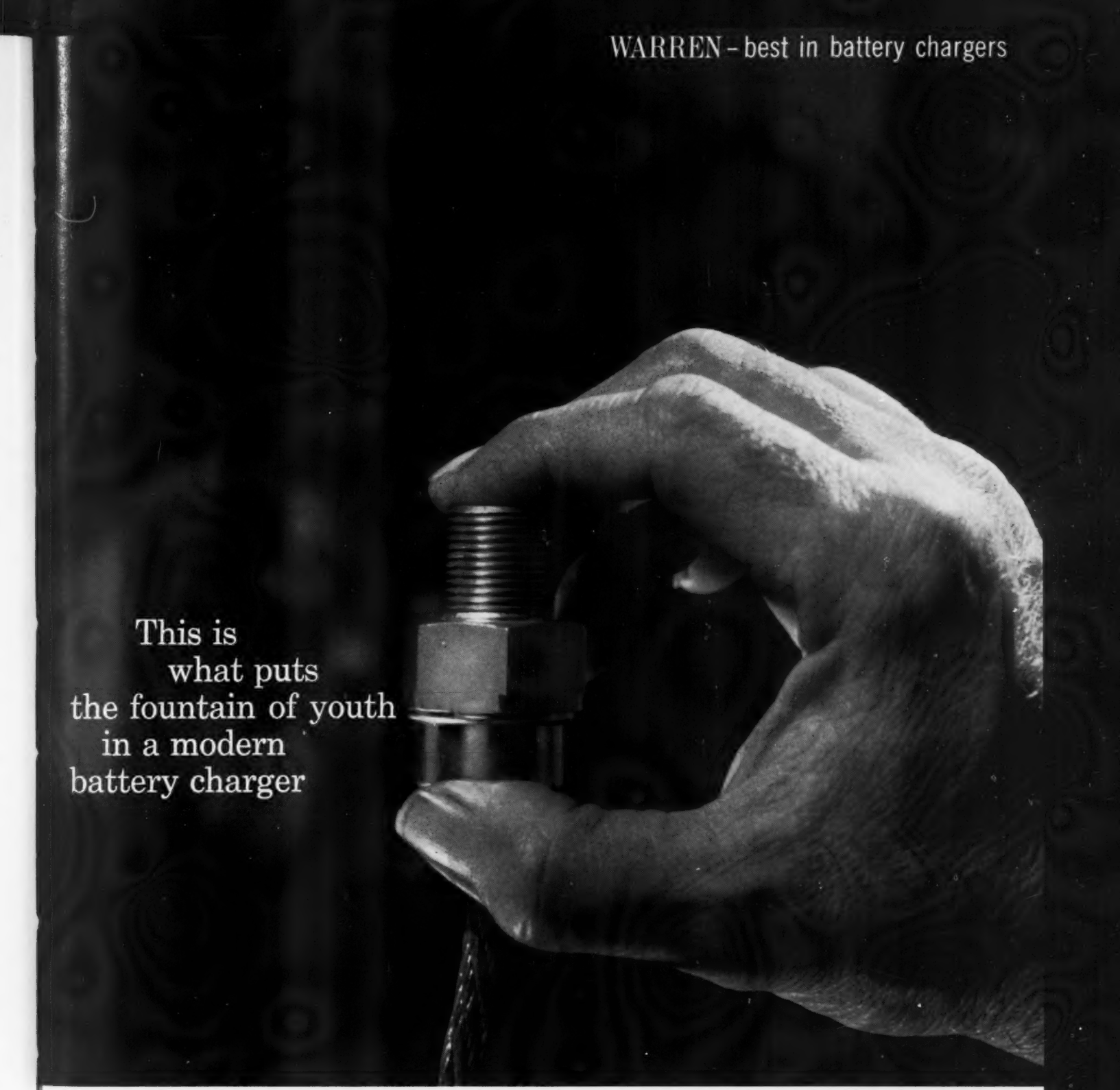
Good Thought From Peoria

"GRIN AND BEAR IT," says a Washington columnist. "Your city, county and state taxes are going to keep on rising."

Nobody is going to grin about it, that's for sure. And last month the editor of the Peoria "Star Journal" told his readers " . . . and we don't have to bear it. In other states and cities, people have finally said a determined 'No!' and stopped the upward trend of taxes. We can do it here, too.

"Unless the city is in desperate need of new revenue, imposing a new tax at this time is unthinkable . . . Balancing a budget is like balancing a scale. You can put more on one side or take some off the other. This is the time to take some off the spending side rather than add to the taxing side."

WARREN - best in battery chargers



This is what puts the fountain of youth in a modern battery charger

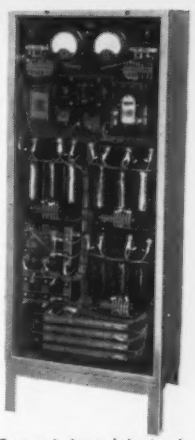
This is a silicon power rectifier — one of many new features Warren has incorporated in its complete line of battery chargers.

(We prefer to call them TFR's, or Transistor Float Rectifiers, but back to the subject).

The reason we use *silicon* (instead of say, selenium) rectifiers is that they are smaller and more efficient. They add more heart, more life to the system. They positively refuse to age, or cause anybody any trouble making adjustments or replacements.

They have, if you will, a certain *character* about them — and what it all means is that they help make possible a level of dependability and maintenance-free operation that makes the Warren TFR's unique.

Even if you're not in the market at the moment, you should find out more about Warren TFR's. You never can tell when you might be able to put the mint-fresh information we send you to very good use.



Compact, transistorized, field-proven Warren TFR's are available in a full range of current ratings in 24, 48, and 130 volt models. Illustrated: 48 TFR 100.

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Nicopress insulated splicing sleeves for rural and urban multi-distribution wires

With this Nicopress D17 Tool and Nicopress Insulated Splicing Sleeves there is no need to tape splices to keep out moisture. The plastic sleeve within the outer copper jacket fully insulates the inner conductivity splice and seals the splice from air and moisture.

Nicopress Sleeves are available in three sizes for multi-distribution wire: 19 AWG, 22 AWG, and 24 AWG. One Nicopress D17 Splicing Tool fits all three sleeves.

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